Attachment #4: Assumptions and Calculations for mortality estimates

- 1. After calculating the predicted mortality from a research activity (e.g. aerial survey), the estimate needs to be rounded to a whole number because that number represents dead animals, which can only be accounted for by whole numbers.
 - a. All numbers should be rounded up to the nearest whole number. Numbers of dead animals cannot be rounded down because they represent a probability of mortality multiplied by a number of animals actually exposed (or permitted). While the probability of mortality may be low, once multiplied by a number of animals, the resultant number is either zero, one, or greater than one. (When you roll a die, the probability of getting any of the six numbers is 1/6, but no matter how many times you roll, you can't get a 2.3.)
 - b. The rounding should occur by activity, not after summing the fractional mortality for all activities in a single permit or across all permits. The way the tables are presented in the EIS, the risk of mortality from one activity is independent of the risk of mortality from another. Thus if you calculate that 0.2 animals would die during surveys and 2.4 would die during capture, that's a total of 4 (1 + 3) mortalities, not 3 (0.2 + 2.4 = 2.6 rounded to 3).
- 2. Permit tables need to be adjusted to match the assumptions used in calculating predicted mortality. For example, if the mortality for a given activity was calculated assuming 10% of the 10,000 animals surveyed were pups, then the permit holder cannot survey more than 1000 pups.
 - a. If it is not possible to determine in advance of the survey how many animals surveyed would be pups, or it is not possible after the survey to determine how many were pups, then the permit needs to be less specific (i.e. "all ages") and the mortality calculations need to be done using the conservative assumption that all animals are pups.
- 3. If the assumptions made in the calculations do not match the information in the applications but are based on additional information from the applicant, we need supplementary information from the applicants for the record. That needs to be a written correspondence from the applicant.
 - a. If the assumptions were not based on information from the applicants, NMFS needs to document why it would change a permit holders request and under what statutory or regulatory provision it has authority to do so.
- 4. Some of NMML's calculations do not appear to account for all the repeat takes for activities performed more than once. For example, under aerial survey on their spreadsheet the footnote indicates "maximum numbers expected to be taken, inclusive of potential for some to be taken multiple times." Yet in the "Frequency" column they indicate the activity would only be performed once. This method of math does not account for multiple takes per individual.

- a. While it may not be reasonable to assume that all animals would be exposed to every survey, there is no way of knowing which ones are not. Thus the conservative way to calculate predicted mortality is to assume all animals are exposed every time.
- b. In the case of captures, it is not clear how the "frequency" could equal 1 when the footnote indicates "inclusive of recaptures" which, according to the application, would be as many as 4 per animal. That would make the frequency 5.

Estimated mortality due to research activities, Northern fur seal EPS

			Permit year
Application/permit	1	2	3
NPUMMRC #715-1883	6.03407	0	0
NPUMMRC #715-1884	1.96112	1.96112	1.96112
ASLC #881-1893	11.39	11.39	11.39
St. Paul #1118-1881	0.2728	0.2728	0.2728
St. George #1119-1882	0.2405	0.2405	0.2405
Insley #1045-1713	0.10775	0.10775	0.10775
NMML #782-1708	48.57683	48.57683	48.57683
NPUMMRC #715-1885 (for SSL research)	0.10296	0.10296	0.10296
NMML #782-1889 (for SSL research)	0.4347	0.4347	0.4347
Total	69.12073	63.08666	63.08666

	Application	Age	Potentially	Proportion	Mortality		Predicted	P	redicted mo	ortality by p	ermit year	
EIS Activity	activity	class	exposed Effect	affected	rate	Frequency	mortality	1	2	3	4	5 Comments
Aerial survey	ice in view of anin	DUDS	0 Alert	0.01	0		0					
			Enter water	0.0001	0.001		0					
	-		Injured	0.00005	0.05		0					
		non-pups	0 Alert	0.01	0		0					
			Enter water	0.005	0.0001		0					
On land		DUDS	0 Alert	0.0001	0.02		0					
catwalks, tripods,		F-F-	Enter water	0.0001	0.001		0					
cliffs			Injured	0.00005	0.05		0					
		non-pups	0 Alert	0.05	C		0					
			Enter water	0.005	0.0001		0					
Incidental effects due to researcher preser	nce among animal	s	Injured	0.00001	0.02		0					
Activities involving pup roundups	iee amerig amma	pups	0 Observed		0.00001		0					
0		• •	Alert	1	0		0					
			Enter water	0.01	0.001		0					
	-		Injured	0.001	0.05		0					
		non-pups	Alen Enter water	1	0.0001		0					
			Injured	0.0005	0.001		0					
Activities involving clearing rookery/haulout		pups	65 Observed		0.00001	12	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078 Assumes that 50% of 130 incidental takes are pups
			Alert	1	C	12	0	0	0	0	0	0 Assumes that 50% of 130 incidental takes are pups
			Enter water	0.05	0.0001	12	0.0039	0.0039	0.0039	0.0039	0.0039	0.0039 Assumes that 50% of 130 incidental takes are pups
	-		Injured	0.0005	0.05	12	0.0195	0.0195	0.0195	0.0195	0.0195	0.0195 Assumes that 50% of 130 incidental takes are pups
		non-pups	65 Alert	1	0 0001	12	0	0	0	0	0	0 Assumes that 50% of 130 incidental takes are non-pups
			Injured	0.001	0.0001	12	0.0702	0.0702	0.0702	0.0702	0.0702	0.00156 Assumes that 50% of 130 incidental takes are non-pups
Incidental disturbance during captures		DUDS	0 Alert	1	0.02	12	0.00100	0.00100	0.00100	0.00100	0.00100	0.00 roo rissumes that 00 % of roo molacital takes are non paps
in breeding season		1.1.5	Enter water	0.001	0.001		0					
-	-		Injured	0.001	0.05		0					
		non-pups	0 Alert	1	0		0					
			Enter water	0.01	0.0001		0					
			Injured	0.001	0.02		0					
Incidental disturbance during captures		pups	0 Alert Enter water	1	0.0001		0					
outside of breeding season			Injured	0.005	0.0001		0					
	-	non-pups	0 Alert	1	0.00		0					
			Enter water	0.2	0.0001		0					
			Injured	0.0001	0.02		0					
Capture/restraint effects			0 Ohannud									
Capture/physical restraint		pups	U Observed		0.001		0					
	-	non-pups	0 Observed		0.001		0					
		non papo	Unobserved		0.0001		0					
Capture/chemical anesthesia		non-pups	0 Observed		0.004		0					
(inhalable agent-isoflurane)			Unobserved		0.0001		0					
Capture/chemical anesthesia		non-pups	0 Observed		0.01		0					
(Injectable)			Unobserved		0.001		0					
(injectable-eq valum)		non-pups	Uppserved		0.0001		0					
Intentional lethal take or permanent removal		pups	0 Observed		0.0001	1	0					
		non-pups	0 Unobserved		1	1	0					
			Procedure-									
Handling effects: estimated increased risk			animals	4	0.002		0					
Permanent mark/not-cold branding		pups		1	0.002		0					
"Low risk" procedures		pups	0 Unobserved	1	0.0001		0					
		non-pups	0 Unobserved	1	0.0001		0					
"Med risk" procedures		pups	0 Unobserved	1	0.0002		0					
	-	non-pups	0 Unobserved	1	0.0002	-	0					
"Elevated risk" procedures	-	pups	0 Unobserved	1	0.001		0					
		non-pups	U Unobserved	1	0.001		0					
Capture/transport/captivity effects			animals									
Transport/holding/release		pups	0 Observed									
			Unobserved									
		non-pups	0 Observed		C		0					

		Unobserved	0.0001	0					
Permanent mark/hot branding	non-pups	0 Observed	0	0					
-		Unobserved	0.0001	0					
"Low risk" procedures	pups	0 Observed	0	0					
		Unobserved	0.0001	0					
	non-pups	0 Observed	0	0					
		Unobserved	0.0001	0					
"Med risk" procedures	pups	0 Observed	0	0					
		Unobserved	0.0002	0					
	non-pups	0 Observed	0	0					
		Unobserved	0.0002	0					
"Elevated risk" procedures	pups	0 Observed	0	0					
		Unobserved	0.001	0					
	non-pups	0 Observed	0	0					
		Unobserved	0.001	0					
				Total	0.10296	0.10296	0.10296	0.10296	0.10296

	Permitted	Age	Potentially	otentially Proportion Mortality Predicted Predic		Predicted m	ortality by	permit yea	r			
EIS Activity	activity	class	exposed Effect	affected	rate	Frequency	mortality	1	2	3	4	5 Comments
Incidental effects due to researcher prese	ence in view o	f animals										
Aerial survey		pups	0 Alert	0.01	0		0					
			Enter water	0.0001	0.001		0					
			Injured	0.00005	0.05		0					
		non-pups	0 Alert	0.01	0		0					
			Enter water	0.005	0.0001		0					
			Injured	0.00001	0.02		0					
On land	Task 1a	pups	6500 Alert	0.05	0	1	0	0	0	0	0	0
catwalks, tripods,			Enter water	0.0001	0.001	1	0.00065	0.00065	0.00065	0.00065	0.00065	0.00065
CIIIIS	Teel: 4e			0.00005	0.05	1	0.01625	0.01625	0.01625	0.01625	0.01625	0.01625
	Task 1a	non-pups	17750 Alert	0.05	0	1	0 008975	0 000075	0 000075	0 000075	0 000075	0 000075
			Enter water	0.005	0.0001	1	0.008875	0.008875	0.008875	0.008875	0.008875	0.008875
	Took 1o		1000 Alert	0.00001	0.02	1	0.00355	0.00355	0.00355	0.00355	0.00355	0.00355
	IdSK IC	pups	Fotor water	0.05	0.001	1	0.0001	0 0001	0 0001	0 0001	0 0001	0 0001 1)
			Enter water	0.0001	0.001	1	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001 1)
	Task 1c		1875 Alert	0.00005	0.03	1	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025 1)
	TASK IC	non-pups	Fotor water	0.05	0 0001	1	0.0000375	0 0000375	0 0000375	0 000038	0 000038	0 0009375 1)
			Injured	0.000	0.0001	1	0.0009375	0.0003375	0.0003375	0.000330	0.000330	0.000375 1)
Incidental effects due to researcher press	ance among a	nimals	injuica	0.00001	0.02		0.000075	0.000010	0.000075	0.000075	0.000373	0.000373 1)
Activities involving pup roundups	Task 1eiv	DUDS	6600 Observed		0.00001	1	0.066	0.066	0.066	0.066	0.066	0.066
rearrance interning pup rearrange		pape	Alert	1	0	1	0	0.000	0.000	0.000	0.000	0
			Enter water	0.01	0.001	1	0.066	0.066	0.066	0.066	0.066	0.066
			Injured	0.001	0.05	1	0.33	0.33	0.33	0.33	0.33	0.33
	Task 1eiv	non-pups	3465 Alert	1	0	1	0	0	0	0	0	0
			Enter water	0.8	0.0001	1	0.2772	0.2772	0.2772	0.2772	0.2772	0.2772
			Injured	0.0005	0.02	1	0.03465	0.03465	0.03465	0.03465	0.03465	0.03465
Activities involving clearing rookery/haulout	Task 1bii	pups	215775 Observed		0.00001	1	1 2.15775	2.15775	2.15775	2.15775	2.15775	2.15775
			Alert	1	0	1	0	0	0	0	0	0
			Enter water	0.05	0.0001	1	1.078875	1.078875	1.078875	1.078875	1.078875	1.078875
			Injured	0.0005	0.05	1	5.394375	5.394375	5.394375	5.394375	5.394375	5.394375
	Task 1bii	non-pups	97475 Alert	1	0	1	0	0	0	0	0	0
			Enter water	0.9	0.0001	1	8.77275	8.77275	8.77275	8.77275	8.77275	8.77275
			Injured	0.0001	0.02	1	0.19495	0.19495	0.19495	0.19495	0.19495	0.19495
	Task 3a	pups	1500 Observed		0.00001	1	0.015	0.015	0.015	0.015	0.015	0.015 1)
			Alert	1	0	1	0	0	0	0	0	0 1)
			Enter water	0.05	0.0001	1	0.0075	0.0075	0.0075	0.0075	0.0075	0.0075 1)
			Injured	0.0005	0.05	1	0.0375	0.0375	0.0375	0.0375	0.0375	0.0375 1)
	Task 3a	non-pups	1500 Alert	1	0	1	0	0	0	0	0	01)
			Enter water	0.9	0.0001	1	0.135	0.135	0.135	0.135	0.135	0.135 1)
	Taal. Ohio		Injured	0.0001	0.02	1	0.003	0.003	0.003	0.003	0.003	0.003 1)
incidental disturbance during captures	Task 3biv	pups	4160 Alert	1	0	1	0	0	0	0	0	0 3), 4)
in breeding season			Enter water	0.001	0.001	1	0.00416	0.00416	0.00416	0.00416	0.00416	0.00416(3), 4)
	Tools 2hin		2467 Alert	0.001	0.03	1	0.208	0.206	0.206	0.206	0.206	$(0.206 \ 3), 4)$
	Task 3DIV	non-pups	3467 Alen	1	0 0001	1	0.002467	0 002467	0 002467	0 002467	0 002467	(0, 3), 4)
			Enter water	0.01	0.0001	1	0.003467	0.003467	0.003467	0.003467	0.003467	0.003467(3), 4)
Incidental disturbance during contures	Tool: 1 ouii		Injured	0.001	0.02	1	0.06934	0.06934	0.06934	0.06934	0.06934	0.06934 3), 4)
nucleental disturbance during captures	IdSK IEVI	pups	6400 Alen	1	0 0001	1	0.042	0 0 4 2	0.042	0 042	0 042	0.042
outside of breeding season			Enter water	0.05	0.0001	1	0.042	0.042	0.042	0.042	0.042	0.042
	Took 1 ouii		7000 Alert	0.0005	0.03	1	0.21	0.21	0.21	0.21	0.21	0.21
	I dSK I EVIL	non-pups	Fotor water	1	0 0001	1	0.14	0 14	0 14	0 14	0 1 4	0 14
				0.2	0.0001	1	0.14	0.14	0.14	0.14	0.14	0.14
	Task 2hii	0000	4200 Alart	0.0001	0.02	1	0.014	0.014	0.014	0.014	0.014	0.014
	I dan Juli	pups	4200 Alen Enter water	0.05	0 0001	1	0.021	0 021	0 021	0 021	0 021	0.021.1)
				0.05	0.0001	1	0.021	0.021	0.021	0.021	0.021	0.105.1)
1			njured	0.0005	0.05	1	0.105	0.105	0.105	0.105	0.105	0.105 1)

	—		0.500 11									a ()
	Task 3bil	non-pups	3500 Alert	1	U	1	0	0	0	0	0	U 1)
			Enter water	0.2	0.0001	1	0.07	0.07	0.07	0.07	0.07	0.07 1)
			Injured	0.0001	0.02	1	0.007	0.007	0.007	0.007	0.007	0.007 1)
	Task 3biv	pups	4160 Alert	1	0	1	0	0	0	0	0	0 3), 4)
			Enter water	0.05	0.0001	1	0.0208	0.0208	0.0208	0.0208	0.0208	0.0208 3), 4)
			Injured	0.0005	0.05	1	0.104	0.104	0.104	0.104	0.104	0.104 3), 4)
	Task 3biv	non-pups	3467 Alert	1	0	1	0	0	0	0	0	0 3), 4)
			Enter water	0.2	0.0001	1	0.06934	0.06934	0.06934	0.06934	0.06934	0.06934 3), 4)
			Injured	0.0001	0.02	1	0.006934	0.006934	0.006934	0.006934	0.006934	0.006934 3), 4)
Capture/restraint effects			,									
Capture/physical restraint	Task 1bi	pups	22000 Observed		0	1	0	0	0	0	0	0
		1.1.	Unobserved		0.001	1	22	22	22	22	22	22
	Task 1ei	DUDS	2700 Observed		0	1	0	0	0	0	0	0
	ruon roi	pape	Unobserved		0.001	1	27	27	27	27	27	27
	Task 1ei	nuns	240 Observed		0.001	2	0	0	0	0	0	
		papo			0.001	2	0.48	0.48	0.48	0.48	0.48	0.48
	Task 1oi	DUDE	60 Observed		0.001	2	0.48	0.48	0.40	0.48	0.40	0.40
	Task Tel	pups	Unchanned		0.001	5	0 10	0.19	0 19	0.19	0 19	0 1 9
	Took 2hi		Choose ved		0.001	3	0.16	0.16	0.18	0.16	0.18	0.10
	I ASK 3DI	pups	50 Observed		0	2	0	0	0	0	0	0 1)
	T 0		Unobserved		0.001	2	0.1	0.1	0.1	0.1	0.1	0.1 1)
	Task 3biii	non-pups	130 Observed		0.004	2	1.04	1.04	1.04	1.04	1.04	1.04 2), 7)
			Unobserved		0.0001	2	0.026	0.026	0.026	0.026	0.026	0.026 2), 7)
Capture/chemical anesthesia	Task 1evi	non-pups	200 Observed		0.004	2	1.6	1.6	1.6	1.6	1.6	1.6 6)
(inhalable agent-isoflurane)			Unobserved		0.0001	2	0.04	0.04	0.04	0.04	0.04	0.04 6)
Capture/chemical anesthesia		non-pups	0 Observed		0.01		0					
(injectable)			Unobserved		0.001		0					
Capture/chemical sedation	Task 3biii	non-pups	130 Observed		0	2	0	0	0	0	0	0 2), 7)
(injectable-eg valium)			Unobserved		0.0001	2	0.026	0.026	0.026	0.026	0.026	0.026 2), 7)
Intentional lethal take or permanent remov	al	pups	0 Observed		1	1	0					
		non-pups	0 Unobserved		1	1	0					
			Procedure-									
Handling effects: estimated increased r	isk		animals									
Permanent mark/hot-cold branding		pups	0 Unobserved	1	0.002		0					
5		non-pups	0 Unobserved	1	0.0001		0					
"Low risk" procedures	Task 1ei	nuns	1680 Unobserved	1	0.0001	1	0 168	0 168	0 168	0 168	0 168	0 168
Low non procodured	Task 1ei	nuns	1200 Upobserved	1	0.0001	1	0.12	0.12	0.12	0.12	0.12	0.12
	Task 3bi	pups	450 Upobserved	1	0.0001	1	0.12	0.12	0.12	0.12	0.12	0.045 1)
	Task Jou	pups	430 Unobserved	1	0.0001	1	0.043	0.045	0.043	0.043	0.045	0.043 1)
	Task Tevi	non-pups	1400 Unobserved	1	0.0001	1	0.14	0.14	0.14	0.14	0.14	0.14
IN As al via Lall as a sa al vas a	Task 13DIII	non-pups		1	0.0001	1	0.185	0.185	0.185	0.185	0.185	0.185 2)
weu risk procedures	T	pups	U Unobserved	1	0.0002		0	0	0	0	0	0
	i ask 1bili	non-pups	140 Unobserved	1	0.0002	1	0.028	0.028	0.028	0.028	0.028	0.028 5)
"Elevated risk" procedures		pups	0 Unobserved	1	0.001		0					
		non-pups	0 Unobserved	1	0.001		0					
			Procedure-									
Capture/transport/captivity effects			animals									
Transport/holding/release		pups	0 Observed									
			Unobserved									
		non-pups	0 Observed		0		0					
			Unobserved		0.0001		0					
Permanent mark/hot branding		non-pups	0 Observed		0		0					
-			Unobserved		0.0001		0					
"Low risk" procedures		pups	0 Observed		0		0					
		1.15	Unobserved		0.0001		n n					
		non-nuns	0 Observed		0		0					
		non pups	Unobserved		0.0001		0					
"Med risk" procedures		DUDE	0 Observed		0.0001		0					
Med lisk procedures		pups			0		0					
					0.0002		0					
		non-pups	U Observed		0		0					

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		Unobserved	0.0002	0
Elevated risk" procedures	pups	0 Observed	0	0
		Unobserved	0.001	0
	non-pups	0 Observed	0	0
		Unobserved	0.001	0

1) Assumed all takes for activity occurring only with animals from EP stock

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Total 48.576829 48.576829 48.57683 48.57683 48.576829

2) Assumed that 130 of 150 non-pups (86.7%) were from EP stock and 20 from San Miguel Island. 130 nonpups includes all animals in subcategory "70 of 150" and 75% (or 60) of the remaining 80 animals.

3) Assumed that 86.7% (see previous footnote) of incidental takes were from EP stock.

4) Assumed that 50% of incidental takes from EP stock for this activity accountable to (first) captures in breeding season, and 50% accountable to (second) captures outside of breeding season.

5) Assumed that all animals in subcategory "70 of 150" were from EP stock

6) Permit allows the use of isoflurane (chemical anesthesia) and valium (chemical sedation). Calculations based on higher mortality rate for capture/chemical anesthesia (inhalable agent).

7) Permit allows the use of valium (chemical sedation). Because physical restraint is required for sedated animals throughout the entire handling period, calculations are based on mortality rates for "Capture/physical restraint" as well a

Bit Activity Permint activity Comments Program monthin Northin Northin<			Age	Potentially	Proportion	Mortality		Predicted	F	redicted m	ortality by p	permit year		
Incidential alteries in use or generic in view of animals Output Output Output Arial a survey pipe 0. Alter 0.00 0.00 Imputes 0.000 0.00 0.00 0.00 Construction pipe 0.00 0.00 0.00 0.00 Imputes 0.000 0.00 0.00 0.00 0.00 0.00 Imputed 0.000 0.001 0.00 0.00 0.00 0.00 Individe involving page roundups page 0.00 0.00 0.00 0.00 Activities involving dearing rockery/haudout page 0.00 0.00 0.00 0.00 Individe involving dearing rockery/haudout page 0.00 0.00 0.00 0.00 Individe involving dearing rockery/haudout page 0.00 0.00<	EIS Activity	Permitted activit	y class	exposed Effect	affected	rate	Frequency	mortality	1	2	3	4	5 0	Comments
Artist survey ppps 0 Artist 0.01 0 Incorpupa 0 Artist 0.001 0.0 0 Incorpupa 0 Artist 0.001 0.0 0 On land 0.04ir 0.005 0.001 0.00 0 On land 0.0pp 0 Artist 0.005 0 0 Other writer 0.0001 0.001 0.001 0 0 0 Other writer 0.0001 0.001 0.0 0 0 0 Order writer 0.0001 0.001 0	Incidental effects due to researcher presen	ce in view of anir	mals											
Ender value 0.0001 0.001 0 ron-pups 0 0 0.0001 0.000 0 On land pups 0 0.0001 0.000 0 0 ingrade 0.0001 0.0001 0.0001 0 0 0 offision ingrade 0.0005 0.001 0 0 0 ingrade 0.0005 0.001 0.001 0	Aerial survey		pups	0 Alert	0.01	0		0						
non-pups influid Decision 0.0000 Decision 0.000 Decision Decision Decision Decision Decision Decision Decision Decision				Enter water	0.0001	0.001		0						
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On land pupe 0 Julicity 0 Julicity 0 Julicity Cristands, ripods, olific pupe 0 Julicity 0 Julicity 0 Julicity 0 Julicity Cristands, ripods, olific nnn-pups 0 Alert 0,0005 0.005 0.0001 0 Cristands 0.0005 0.0001 0.022 0 0 0 Incidental effects due to researcher presence among animats Description 0.0001 0.022 0 Activities involving pup roundups pups 0 Observed 0.0001 0.00 0 Incidental effects due to researcher presence among animats Alert 0.00 0 0 Activities involving pup roundups pups 0 Observed 0.0001 0.00 0 Activities involving clearing rookery/haulout pups 0 Observed 0.0001 0.00 0 Activities involving clearing rookery/haulout pups 0 Alert 1 0 0 0 Indicated disturbance during captures pups 0 Alert 1 0 0 <td< td=""><td></td><td></td><td></td><td>Enter water</td><td>0.005</td><td>0.0001</td><td></td><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td></td<>				Enter water	0.005	0.0001		0						
On land pups Diametric Outs O D Enter water 0.005 0.001 0.00 0 edits 0 Alert 0.005 0.000 0.00 inter water 0.000 0.002 0 intervaler 0.0001 0.02 0 intervaler 0.0001 0.02 0 intervaler 0.0001 0.02 0 intervaler 0.0001 0.00 0 intervaler 0.01 0.001 0 intervaler 0.01 0.001 0 intervaler 0.01 0.001 0 intervaler 0.01 0.0001 0 intervaler 0.00 0.00 0 intervaler 0.00 0.00 0 intervaler 0.00 0.00 0 intervaler 0.01 0.02 0 intervaler 0.01 0.02 0 intervaler 0.01				Injured	0.00001	0.02		0						
Enter water 0.0001 0.001 0 initial 0.0001 0.001 0 initial 0.0001 0.0001 0 initial 0.00001 0.000 0 initial 0.0001 0.0001 0 initial 0.0001 0 0 0 0 0 0 0	On land		pups	0 Alert	0.05	0		0						
Centrs Impuipes Outputs Outputs <t< td=""><td>catwalks, tripods,</td><td></td><td></td><td>Enter water</td><td>0.0001</td><td>0.001</td><td></td><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	catwalks, tripods,			Enter water	0.0001	0.001		0						
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Either water injured 0.000 0.000 0.000 0 Reidental offects due to researcher presence among animals 0.000 0.0001 0 Activities involving pup roundups pups 0.00 doesned Enter water 0.0001 0 Activities involving pup roundups pups 0.00 doesned Enter water 0.001 0.00 Activities involving clearing rookery/haulout pups 0.000 0.000 0.00 Activities involving clearing rookery/haulout pups 0.0001 0.000 0.000 Activities involving clearing rookery/haulout pups 0.4lert 1 0 0 Activities involving clearing rookery/haulout pups 0.4lert 1 0 0 Indidental disturbance during captures pups 0.Alert 1 0 0 Indidental disturbance during captures Instrumentation pups 0.Alert 1 0 0 Indidental disturbance during captures Instrumentation pups 0.Alert 1 0 0 0 0 0 0<			non-pups		0.05	0		0						
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Addition for Use of large of a province and granues pups 0 Observed 0.00001 0 Addition involving pup roundups Alert 1 0 0 Inon-pups Alert 1 0 0 Inon-pups Alert 1 0 0 Enter water 0.8 0.0001 0 Inon-pups Alert 1 0 0 Enter water 0.8 0.0001 0 Invited 0.00001 0 0 Invited 0.00001 0 0 Individes involving clearing rookery/haulout pups 0 Observed 0.0001 0 Individes involving clearing rookery/haulout pups 0 Alert 1 0 0 Individed 0.0001 0.02 0 0 0 0 Individe distribance during captures pups 0 Alert 1 0 0 0 0 0 0 0 0 0 0 0 0 0<	Incidental offects due to researcher preser	co among anima	le	Injured	0.00001	0.02		0						
Alteria Construint Alteria Construint Construint <td>Activities involving pup roundups</td> <td>ce anong anima</td> <td>15</td> <td>0 Observed</td> <td></td> <td>0.00001</td> <td></td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Activities involving pup roundups	ce anong anima	15	0 Observed		0.00001		0						
Finite value injured 0.001 0.005 0.001 0.005 0.001 0.005 Activities involving clearing rockery/haulout pups 0.0005 0.0001 0 Activities involving clearing rockery/haulout pups 0.0005 0.0001 0 Activities involving clearing rockery/haulout pups 0.0005 0.0001 0 Indicated disturbance during captures pups 0.001 0.001 0 Incidential disturbance during captures pups 0.001 0.001 0 Incidential disturbance during captures pups 0.04 ret 1 0.001 0 Incidential disturbance during captures pups 0.04 ret 0.01 0.001 0 0 Incidential disturbance during captures pups 0.04 ret 0.01 0.001 0	Activities involving pup roundups		pups	Alort	1	0.00001		0						
Improvements Improvements Alert 0 0.05 0 Activities involving clearing rookery/haulout pups 0.005 0.0001 0 Activities involving clearing rookery/haulout pups 0.00served 0.0001 0 Activities involving clearing rookery/haulout pups 0.00served 0.0001 0 Activities involving clearing rookery/haulout pups 0.01served 0.0001 0 Inverse 0.00 0.05 0 0 0 Inverse 0.001 0.02 0 0 Indicateral disturbance during captures pups 0.04set 1 0 0 Incidental disturbance during captures pups 0.04set 1 0 0 0 Incidental disturbance during captures pups 0.04set 1 0				Enter water	0.01	0.001		0						
Inon-pups Altert 0.00 0 Inon-pups Enter water 0.8 00001 0 Injured 0.0005 0.002 0 Activities involving clearing rookery/haulout pups 0.0005 0.0001 0 Enter water 0.8 00001 0 0 0 Injured 0.0005 0.005 0 Indential disturbance during captures pups 0.4kert 1 0 0 Incidential disturbance during captures pups 0.4kert 1 0 0 Incidential disturbance during captures pups 0.4kert 1 0 0 Incidential disturbance during captures pups 0.4kert 1 0 0 Incidential disturbance during captures Instrumentation pups 0.4kert 1 0				Injured	0.01	0.001		0						
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Activities involving clearing rookery/haulout pups 0 Observed 0.0001 00 Activities involving clearing rookery/haulout pups 0 Observed 0.0001 0 Activities involving clearing rookery/haulout pups 0 Observed 0.0001 0 Activities involving clearing rookery/haulout pups 0 Alert 1 0 0 Inviced 0.0001 0.001 0 0 0 0 Inviced idisturbance during captures pups 0 Alert 1 0 0 Inviced 0.0001 0.001 0.001 0			non papo	Enter water	0.8	0 0001		0						
Activities involving clearing rooksry/haulout pups 0.00esrved 0.0001 0 Activities involving clearing rooksry/haulout Pups 0.00esrved 0.0001 0 Indiversal 0.0005 0.0001 0 0 Indiversal 0.0005 0.0001 0 Incidental disturbance during captures pups 0.04ett 1 0 0 Incidental disturbance during captures pups 0.04ett 1 0 0 Incidental disturbance during captures pups 0.04ett 1 0 0 Incidental disturbance during captures pups 0.04ett 1 0 0 Incidental disturbance during captures Instrumentation pups 50 Alert 1 0 1 0.0025				Injured	0.0005	0.02		0						
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Enter water injured 0.005 0.005 0.001 0 0 non-pups 0 Alert 1 0 0 Enter water 0.00 0.0001 0 Inddental disturbance during captures pups 0 Alert 1 0 0 Inddental disturbance during captures pups 0 Alert 1 0 0 Indidental disturbance during captures pups 0 Alert 1 0 0 Indidental disturbance during captures pups 0 Alert 1 0 0 Indidental disturbance during captures Instrumentation pups 0 Alert 0.001 0.001 0 Incidental disturbance during captures Instrumentation pups 50 Alert 0 1 0.0025 0.0025 0.00025 0.00025 0.00025 0.00025 0.00025 0.00025 0.00025 0.00025 0.00125 0.00125 0.00125 0.00125 0.00125 0.00125 0.00125 0.00125 0.00125 0.00125 0.00125 0.00125 <	· · · · · · · · · · · · · · · · · · ·		F - F -	Alert	1	0		0						
Injured 0.0005 0.05 0 non-pups 0 Alert 1 0 0 Enter water 0.0001 0.02 0 in breeding season Enter water 0.001 0 Incidental disturbance during captures pups 0 Alert 1 0 0 Incidental disturbance during captures pups 0 Alert 1 0 0 Incidental disturbance during captures Instrumentation Enter water 0.001 0.001 0 Incidental disturbance during captures Instrumentation pups 50 Alert 1 0				Enter water	0.05	0.0001		0						
non-pups 0 Alert 0 0 Enter water 0.9 0.0001 0 Incidental disturbance during captures pups 0 Alert 1 0 0 Incidental disturbance during captures pups 0 Alert 1 0 0 Incidental disturbance during captures pups 0 Alert 1 0 0 Incidental disturbance during captures Instrumentation pups 50 Alert 1 0 0 Incidental disturbance during captures Instrumentation pups 50 Alert 1 0 1 0.00025 </td <td></td> <td></td> <td></td> <td>Injured</td> <td>0.0005</td> <td>0.05</td> <td></td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>				Injured	0.0005	0.05		0						
Entry Entry 0.9 0.0001 0.0 Incidental disturbance during captures pups 0 Alert 1 0 0 Incidental disturbance during captures pups 0 Alert 1 0 0 Incidental disturbance during captures pups 0 Alert 1 0 0 Incidental disturbance during captures Instrumentation pups 0 Alert 1 0 0 Incidental disturbance during captures Instrumentation pups 50 Alert 1 0 1 0 0 0.0025 <td< td=""><td></td><td></td><td>non-pups</td><td>0 Alert</td><td>1</td><td>0</td><td></td><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td></td<>			non-pups	0 Alert	1	0		0						
Incidental disturbance during captures pups 0 Alert 1 0 0.00 in breeding season Enter water 0.001 0.005 0				Enter water	0.9	0.0001		0						
Incidental disturbance during captures pups 0 Alert 1 0 0 in breeding season Injured 0.001 0.001 0 Indienda disturbance during captures Instrumentation Pups 0 Alert 1 0 0 Incidental disturbance during captures Instrumentation Pups 50 Alert 1 0 </td <td></td> <td></td> <td></td> <td>Injured</td> <td>0.0001</td> <td>0.02</td> <td></td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>				Injured	0.0001	0.02		0						
in breeding season in breeding season in on-pups in on-pups incidental disturbance during captures outside of breeding season incidental disturbance during captures incidental disturbance during capt	Incidental disturbance during captures		pups	0 Alert	1	0		0						
Injured 0.001 0.05 0 non-pups 0 Alert 1 0 0 Enter water 0.001 0.02 0 0 0 0 0 Incidental disturbance during captures Instrumentation pups 50 Alert 1 0 1 0.002 0.0025 0.00025 0.00025 0.00025 0.00025 0.00125 0.0025 0.0025 0.0025 0.0025 0.0025 0.0025 0.0025 0.0025 0.00025 0.0025 0.0025	in breeding season			Enter water	0.001	0.001		0						
non-pups 0 Alert 1 0 0 Enter water 0.01 0.0001 0 0 Incidental disturbance during captures Instrumentation pups 50 Alert 1 0 1 0	-			Injured	0.001	0.05		0						
Enter water 0.01 0.001 0.02 0 Incidental disturbance during captures outside of breeding season Instrumentation pups 50 Alert 1 0 1 0.0025			non-pups	0 Alert	1	0		0						
Incidental disturbance during captures Instrumentation pups 50 Alert 1 0 1 0 <td></td> <td></td> <td></td> <td>Enter water</td> <td>0.01</td> <td>0.0001</td> <td></td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>				Enter water	0.01	0.0001		0						
Incidental disturbance during captures outside of breeding season Instrumentation pups pups 50 Alert 1 0 1 0				Injured	0.001	0.02		0						
Description Enter water Injured 0.05 0.0005 0.0001 1 0.00025 0.00025 0.00025 0.00125 0.00025 0.0025 0.0025	Incidental disturbance during captures	Instrumentation	pups	50 Alert	1	0	1	0	0	0	0	0	0	
Injured 0.0005 0.05 1 0.00125 0.0025 0.0025 0.0025 0.0025 0.0025 0.0025 0.0025 0.0025 0.0025 0.00025	outside of breeding season			Enter water	0.05	0.0001	1	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	
non-pups 125 Alert 1 0 1 0	-			Injured	0.0005	0.05	1	0.00125	0.00125	0.00125	0.00125	0.00125	0.00125	
Enter water Injured 0.2 0.0001 0.0001 1 0.002 0.0025 0.002 0.002 0.002			non-pups	125 Alert	1	0	1	0	0	0	0	0	0	
Injured 0.001 0.02 1 0.00025 0.0002 0.0025 0.0002 0.0025 0.0002 0.0025 0.0002 0.0025 0.0002 0.0025 0.0002 0.0002 0.0002 0.0002 0.0002 0.0002 0.0002 0.0002 0.0002 0.0002 0.0002 0.0002 0.0002 0.0002 0.0002 0.0002 0.0002 <td></td> <td></td> <td></td> <td>Enter water</td> <td>0.2</td> <td>0.0001</td> <td>1</td> <td>0.0025</td> <td>0.0025</td> <td>0.0025</td> <td>0.0025</td> <td>0.0025</td> <td>0.0025</td> <td></td>				Enter water	0.2	0.0001	1	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	
Unobserved 0.001 0 Instrumentation pups 0.0bserved 0.001 0 Inon-pups 10.0bserved 0.001 2 0.08 0.08 0.08 0.002 0.001 0 0 0 0 0 0 0 0 0 0 0				Injured	0.0001	0.02	1	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	
Capture/physical restraint Instrumentation pups 0 Observed 0 0 Unobserved 0.001 0<	Capture/restraint effects													
Unobserved 0.001 0 non-pups 10 Observed 0.004 2 0.08 0.08 0.08 0.08 0.09 Unobserved 1 0.001 2 0.001 0 <td>Capture/physical restraint</td> <td>Instrumentation</td> <td>pups</td> <td>0 Observed</td> <td></td> <td>0</td> <td></td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Capture/physical restraint	Instrumentation	pups	0 Observed		0		0						
non-pups 10 Observed 1 0.004 2 0.08 0.09 0.002 0.005 0.0005				Unobserved	-	0.001		0						
Unobserved 1 0.0001 2 0.003 0.0005 0.0005 0.0005 0.0005 0.0005 0.0005 0.0005 0.0005 0.0005 0.0005 0.0005 0.0005 0.0005 0.0005 0.0005 0.0005 0.0005 0.0005 0.0005 <th< td=""><td></td><td></td><td>non-pups</td><td>10 Observed</td><td></td><td>0.004</td><td>2</td><td>80.0</td><td>0.08</td><td>0.08</td><td>0.08</td><td>0.08</td><td>0.08</td><td></td></th<>			non-pups	10 Observed		0.004	2	80.0	0.08	0.08	0.08	0.08	0.08	
non-pups 5 Observed 1 0.004 1 0.02 0.005 0.0005				Unobserved		0.0001	2	0.002	0.002	0.002	0.002	0.002	0.002	
Unobserved 1 0.0001 1 0.0005			non-pups	5 Observed		0.004	1	0.02	0.02	0.02	0.02	0.02	0.02	
Capture/chemical anesthesia non-pups 0 Observed 0.004 0 (inhalable agent-isoflurane) Unobserved 0.0001 0 Conture/chemical anesthesia	Oracture (sharrised are attacked			Unobserved 1		0.0001	1	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	
(Initialable agenitissionalitie) Unicoserved U.UUU1 U	(inholohio agent ineflurenc)		non-pups	0 Observed		0.004		0						
1 (MALEAR AND						0.0001		0						
Capitar Antesia an estresia an estresia in Contentina an estresia de la contentina antestresia de la contentina de la contentin Contentina de la contentina de	(injoctable)		non-pups			0.01		0						
Inigenature) Unidevented U.U.U. U	(injectable) Capture/chemical sedation					0.001		0						
Characteristication sociation of the second	(injectable-eq valium)		non-huha	Unobserved		0 0001		0						
Information Section 0	Intentional lethal take or permanent removal		nuns			0.0001	1	0						
non-purs Ollobserved 1 1 0	international take of permanent removal		non-pups	0 Unobserved		1	1	0						
Procedure-			1011 papa	Procedure-			1	0	_		_	_	_	
Handling effects: estimated increased risk animals	Handling effects: estimated increased risk			animals										

Permanent mark/hot-cold branding		pups	0 Unobserved	1	0.002		0					
_		non-pups	0 Unobserved	1	0.0001		0					
"Low risk" procedures		pups	0 Unobserved	1	0.0001		0					
	Instrumentation	non-pups	10 Unobserved	1	0.0001	1	0.001	0.001	0.001	0.001	0.001	0.001
"Med risk" procedures		pups	0 Unobserved	1	0.0002		0					
·		non-pups	0 Unobserved	1	0.0002		0					
"Elevated risk" procedures		pups	0 Unobserved	1	0.001		0					
		non-pups	0 Unobserved	1	0.001		0					
		Pr	ocedure-									
Capture/transport/captivity effects		i	animals									
Transport/holding/release		pups	0 Observed									
			Unobserved									
		non-pups	0 Observed		0		0					
			Unobserved		0.0001		0					
Permanent mark/hot branding		non-pups	0 Observed		0		0					
			Unobserved		0.0001		0					
"Low risk" procedures		pups	0 Observed		0		0					
			Unobserved		0.0001		0					
		non-pups	0 Observed		0		0					
			Unobserved		0.0001		0					
"Med risk" procedures		pups	0 Observed		0		0					
			Unobserved		0.0002		0					
		non-pups	0 Observed		0		0					
			Unobserved		0.0002		0					
"Elevated risk" procedures		pups	0 Observed		0		0					
			Unobserved		0.001		0					
		non-pups	0 Observed		0		0					
			Unobserved		0.001		0					

Total 0.10775 0.10775 0.10775 0.10775 0.10775

		Age	Potentially		Proportion	Mortality		Predicted		Predicted m	ortality by p	ermit year	
EIS Activity	Application activity	class	exposed E	Effect	affected	rate	Frequency	mortality	1	2	3	4	5 Comments
Aerial survey	ice in view of animal	DUDS	0 Aler	t	0.01	C)	0					
		1.1.	Ente	er water	0.0001	0.001		0					
		000 0000	Inju O Aler	red	0.00005	0.05		0	-				
		non-pups	Ente	er water	0.005	0.0001	,	0					
			Inju	red	0.00001	0.02		0					
On land	Island Sentinel Activities	pups	20000 Aler	t	0.05	0		1 0	0	0	0	0	0 20000*.05 (the proportion affected)=1000 incidental takes requested
catwarks, tripods, cliffs			Ente	er water red	0.0000	0.001		1 0.002	0.002	0.002	0.002	0.002	0.02
		non-pups	48000 Aler	t	0.05	C)	1 0	- 0	0	0	0	0 48000*.05 (the proportion affected)=2400 incidental takes requested
			Ente	er water	0.005	0.0001		1 0.024	0.024	0.024	0.024	0.024	0.024
Incidental effects due to researcher presen	ce among animal		Inju	red	0.00001	0.02		1 0.0096	0.0096	0.0096	0.0096	0.0096	0.0096
Activities involving pup roundups		pups	0 Obs	erved		0.00001		0					
			Aler	t	1	0)	0					
			Ente	er water red	0.01	0.001		0					
		non-pups	Aler	t	1	C)	0	-				
			Ente	er water	0.8	0.0001		0					
Activities involving clearing rookery/haulout	Biosampling	nuns	Inju 100 Obs	erved	0.0005	0.02		1 0.001	0.001	0.001	0.001	0.001	0.001
rearing cloaning rookery nation	biodumpinig	pupo	Aler	t	1	C		1 0	0.001	0.001	0	0	0
			Ente	er water	0.05	0.0001		1 0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
		non-pups	350 Aler	red t	0.0005	0.05		1 0.0025 1 0	0.0025	0.0025	0.0025	0.0025	0.0025
		non papa	Ente	er water	0.9	0.0001		1 0.0315	0.0315	0.0315	0.0315	0.0315	0.0315
			Inju	red	0.0001	0.02		1 0.0007	0.0007	0.0007	0.0007	0.0007	0.0007
Incidental disturbance during captures		pups	0 Aler	t	1	0)	0	0	0	0	0	0
in breeding season			Ente	er water red	0.001	0.001		0	0	0	0	0	0
		non-pups	0 Aler	t	1	C)	0	- 0	0	0	0	0
			Ente	er water	0.01	0.0001		0	0	0	0	0	0
Incidental disturbance during captures	Disentanglement	DUDS	400 Aler	red t	0.001	0.02		1 0	- 0	0	0	0	0
outside of breeding season	Dischangiement	pups	Ente	er water	0.05	0.0001		1 0.002	0.002	0.002	0.002	0.002	0.002
-			Inju	red	0.0005	0.05		1 0.01	0.01	0.01	0.01	0.01	0.01
		non-pups	4850 Aler	t or water	1	0.0001)	1 0.007	0 007	0 007	0 007	0 007	0
			Inju	red	0.0001	0.001	1	1 0.0097	0.0097	0.0097	0.0097	0.0097	0.0097
Capture/restraint effects													
Capture/physical restraint		pups	0 Obs	erved		0.001)	0					
		non-pups	0 Obs	erved		0.004		0	-				
			Uno	bserved		0.0001		0	-				
Capture/chemical anesthesia		non-pups	0 Obs	erved		0.004		0					
Capture/chemical anesthesia		non-pups	0 Obs	erved		0.0001		0	-				
(injectable)			Uno	bserved		0.001		0	-				
Capture/chemical sedation		non-pups	0 Obs	erved		0.0001)	0					
Intentional lethal take or permanent removal		pups	0 Obs	erved		0.0001		1 0	-				
		non-pups	0 Uno	bserved		1		1 0					
Handling offects: estimated increased risk			Procedure-										
Permanent mark/hot-cold branding		pups	0 Uno	bserved	1	0.002	2	0					
		non-pups	0 Uno	bserved	1	0.0001		0					
"Low risk" procedures		pups	0 Uno	bserved	1	0.0001		0	-				
"Med risk" procedures		pups	0 Uno	bserved	1	0.0001	2	0	-				
		non-pups	0 Uno	bserved	1	0.0002		0					
"Elevated risk" procedures		pups	0 Uno	bserved	1	0.001		0	-				
		non-pups	Procedure-	bserveu	1	0.001		0					
Capture/transport/captivity effects			animals										
Transport/holding/release		pups	0 Obs	erved									
		non-pups	0 Obs	erved		C)	0	-				
		1.1.4	Uno	bserved		0.0001		0	-				
Permanent mark/hot branding		non-pups	0 Obs	erved		0.0004)	0					
"Low risk" procedures		pups	0 Obs	erved		0.0001)	0	-				
			Uno	bserved		0.0001		0	-				
		non-pups	0 Obs	erved		0.000)	0					
I			Uno	oserved		0.0001		0	-				

1	1	1	9	-1	8	82	
---	---	---	---	----	---	----	--

"Med risk" procedures	pups	0 Observed	0	0
		Unobserved	0.0002	0
	non-pups	0 Observed	0	0
		Unobserved	0.0002	0
"Elevated risk" procedures	pups	0 Observed	0	0
		Unobserved	0.001	0
	non-pups	0 Observed	0	0
		Unobserved	0.001	0

Total 0.2405 0.2405 0.2405 0.2405 0.2405

		Age	Potentially	Proportion	Mortality		Predicted	Pr	edicted mo	rtality by p	permit year	r	
EIS Activity	Application activity	class	exposed Effect	affected	rate	Frequency	mortality	1	2	3	4	5	Comments
Aerial survey		DUDS	0 Alert	0.01	0)	0						
		1.1.	Enter water	0.0001	0.001		0						
			Injured	0.00005	0.05	5	0						
		non-pups	U Alert Enter water	0.01	0 0001)	0						
			Injured	0.00001	0.00	2	0						
On land	Island Sentinel Activities	pups	20000 Alert	0.05	C) 1	0	0	0	0	0		0 20000*.05 (the proportion affected)=1000 incidental takes
catwalks, tripods,			Enter water	0.0001	0.001	1	0.002	0.002	0.002	0.002	0.002	0.00	2
CIIITS		non-nuns	48000 Alert	0.00005	0.05) 1	0.05	0.05	0.05	0.05	0.05	0.0	o 0.48000*.05 (the proportion affected)=2400 incidental takes
		non papo	Enter water	0.005	0.0001	í 1	0.024	0.024	0.024	0.024	0.024	0.02	4
			Injured	0.00001	0.02	2 1	0.0096	0.0096	0.0096	0.0096	0.0096	0.009	6
Incidental effects due to researcher pres	ence among animals	2112.0	0 Oheenved		0.00001		0						
Activities involving pup roundups		pups	U Observed Alert	1	0.00001)	0						
			Enter water	0.01	0.001		0						
			Injured	0.001	0.05	5	0						
		non-pups	Alert	1	0)	0						
			Enter water Injured	0.8	0.0001	>	0						
Activities involving clearing rookery/haulout	Biosampling	pups	200 Observed	0.0000	0.00001	1 1	0.002	0.002	0.002	0.002	0.002	0.00	2
			Alert	1	C) 1	0	0	0	0	0		0
			Enter water	0.05	0.0001	1	0.001	0.001	0.001	0.001	0.001	0.00	1
		non-pups	350 Alert	0.0005	0.05) 1	0.005	0.005	0.005	0.005	0.005	0.00	5)
		non papo	Enter water	0.9	0.0001	, 1	0.0315	0.0315	0.0315	0.0315	0.0315	0.031	5
			Injured	0.0001	0.02	2 1	0.0007	0.0007	0.0007	0.0007	0.0007	0.000	7
Incidental disturbance during captures		pups	0 Alert	1	C)	0	0	0	0	0		D -
in breeding season			Enter water	0.001	0.001		0	0	0	0	0		
		non-pups	0 Alert	0.001	0.00)	0	0	0	0	0		0
			Enter water	0.01	0.0001		0	0	0	0	0		D
			Injured	0.001	0.02	2	0	0	0	0	0		D
Incidental disturbance during captures	Disentanglement	pups	500 Alert	1	0.0001) 1	0 0025	0 0025	0 0025	0 0025	0 0025	0.002	
builde of breeding season			Injured	0.0005	0.001	5 1	0.0125	0.0025	0.0025	0.0025	0.0025	0.002	5
		non-pups	6000 Alert	1	C) 1	0	0	0	0	0		0
			Enter water	0.2	0.0001	1	0.12	0.12	0.12	0.12	0.12	0.1	2
Capture/restraint effects			Injured	0.0001	0.02	2 1	0.012	0.012	0.012	0.012	0.012	0.01	2
Capture/physical restraint		pups	0 Observed		C)	0						
			Unobserved		0.001		0						
		non-pups	0 Observed		0.004		0						
Capture/chemical anesthesia		non-nuns	0 Observed		0.0001		0						
(inhalable agent-isoflurane)		non papo	Unobserved		0.0001		0						
Capture/chemical anesthesia		non-pups	0 Observed		0.01		0						
(injectable)			Unobserved		0.001		0						
(injectable-eq valium)		non-pups	Unobserved		0.0001)	0						
Intentional lethal take or permanent remova	1	pups	0 Observed		1	1	0						
		non-pups	0 Unobserved		1	1	0						
Lending offecter estimated increased via			Procedure-										
Permanent mark/hot-cold branding	5n	DUDS	0 Unobserved	1	0.002	2	0						
		non-pups	0 Unobserved	1	0.0001		0						
"Low risk" procedures		pups	0 Unobserved	1	0.0001		0						
"Med risk" procedures		non-pups	0 Unobserved	1	0.0001)	0						
med lisk procedures		non-pups	0 Unobserved	1	0.0002	2	0						
"Elevated risk" procedures		pups	0 Unobserved	1	0.001		0						
		non-pups	0 Unobserved	1	0.001		0			_		_	
Canture/transport/cantivity effects			Procedure-										
Transport/holding/release		pups	0 Observed										
			Unobserved										
ł		non-pups	0 Observed		C)	0						

		Unobserved	0.0001	0					
Permanent mark/hot branding	non-pups	0 Observed	0	0					
-		Unobserved	0.0001	0					
"Low risk" procedures	pups	0 Observed	0	0					
		Unobserved	0.0001	0					
	non-pups	0 Observed	0	0					
		Unobserved	0.0001	0					
"Med risk" procedures	pups	0 Observed	0	0					
		Unobserved	0.0002	0					
	non-pups	0 Observed	0	0					
		Unobserved	0.0002	0					
"Elevated risk" procedures	pups	0 Observed	0	0					
		Unobserved	0.001	0					
	non-pups	0 Observed	0	0					
		Unobserved	0.001	0					
				Total	0.2728	0.2728	0.2728	0.2728	0.2728

	Application	Age	Potentially	Proportion	Mortality		Predicted	Pre	edicted mo	ortality by	permit year	r
EIS Activity	activity	class	exposed Effect	affected	rate	Frequency	mortality	1	2	3	4	5 Comments
Incidental effects due to researcher pr	resence in view of	fanimals	0.44.7									
Aerial survey		pups	0 Alert	0.01	0		0					
			Injured	0.0001	0.001		0					
		non-pups	0 Alert	0.01	0.00		0					
			Enter water	0.005	0.0001		0					
			Injured	0.00001	0.02		0					
On land		pups	0 Alert	0.05	0		0					
catwalks, tripods,			Enter water	0.0001	0.001		0					
Cliffs			Injured 0. Alort	0.00005	0.05		0					
		non-pups	Enter water	0.05	0 0001		0					
			Injured	0.00001	0.001		Ő					
Incidental effects due to researcher pr	esence among ar	nimals										
Activities involving pup roundups		pups	0 Observed		0.00001		0					
			Alert	1	0		0					
			Enter water	0.01	0.001		0					
			Injured	0.001	0.05		0					
		non-pups	Enter water	0.8	0 0001		0					
			Injured	0.0005	0.02		Ő					
Activities involving clearing rookery/haulo	out	pups	0 Observed		0.00001		0					
			Alert	1	0		0					
			Enter water	0.05	0.0001		0					
			Injured	0.0005	0.05		0					
		non-pups	U Alen Enter water	1	0 0001		0					
			Injured	0.0001	0.0001		0					
Incidental disturbance during captures		pups	0 Alert	1	0		0					
in breeding season			Enter water	0.001	0.001		0					
			Injured	0.001	0.05		0					
		non-pups	0 Alert	1	0		0					
			Enter water	0.01	0.0001		0					
Incidental disturbance during contures	Land contures	21122	Injured	0.001	0.02	FO	0	0	0	0	0	0. Accurace that EEQ(of E 000 incidental takes are nume
Incidental disturbance during captures	Land captures	pups	Z750 Alen Enter water	1 0.05	0 0001	50	0 6875	0 6875	0 6875	0 6875	0 6875	0 Assumes that 55% of 5,000 incidental takes are pups
builde of breeding season			Injured	0.0005	0.05	50	3.4375	3.4375	3.4375	3.4375	3.4375	3.4375 Assumes that 55% of 5.000 incidental takes are pups
		non-pups	2250 Alert	1	0	50	0	0	0	0	0	0 Assumes that 45% of 5,000 incidental takes are non-pups
			Enter water	0.2	0.0001	50	2.25	2.25	2.25	2.25	2.25	2.25 Assumes that 45% of 5,000 incidental takes are non-pups
			Injured	0.0001	0.02	50	0.225	0.225	0.225	0.225	0.225	0.225 Assumes that 45% of 5,000 incidental takes are non-pups
Capture/restraint effects		DUDG	Observed		0		0					
Capture/physical restraint		pups	Unobserved		0.001		0					
		non-pups	Observed		0.004		0					
			Unobserved		0.0001		0					
Capture/chemical anesthesia	Land captures	pups	50 Observed	1	0	1	0	0	0	0	0	0 1), 2), 3)
(inhalable agent-isoflurane)			Unobserved	1	0.001	1	0.05	0.05	0.05	0.05	0.05	0.05 1), 2), 3)
	Land captures	non-pups	50 Observed	1	0.004	1	0.2	0.2	0.2	0.2	0.2	0.2 2), 3)
	Pologia conturos		200 Observed	1	0.0001	1	0.005	0.005	0.005	0.005	0.005	0.005 2), 3)
	relayic captures	non-pups	Unobserved	1	0.0004	4	0.08	0.08	0.08	0.08	0.08	0.08 3)
Capture/chemical anesthesia		non-pups	0 Observed		0.01		0					
(injectable)			Unobserved		0.001		0					
Capture/chemical sedation		non-pups	0 Observed		0		0					
(injectable-eg valium)			Unobserved		0.0001		0					
Intentional lethal take or permanent remo	oval	pups	0 Observed		1	1	0					
		non-pups	Procedure-		1	1	0					
Handling effects: estimated increased	risk		animals									
Permanent mark/hot-cold branding		pups	0 Unobserved	1	0.002		0					
		non-pups	0 Unobserved	1	0.0001		0					
"Low risk" procedures	Land captures	pups	550 Unobserved	1	0.0001	1	0.055	0.055	0.055	0.055	0.055	0.055 2)
	Land captures	non-pups	400 Unobserved	1	0.0001	1	0.04	0.04	0.04	0.04	0.04	0.04 2)
"Med risk" procedures	Land captures	nun-pups	50 Unobserved	1	0.0001	1	0.94	0.94	0.94	0.94	0.94	0.04
med how procedures	Land captures	non-pups	50 Unobserved	1	0.0002	1	0.01	0.01	0.01	0.01	0.01	0.01 2)
	Pelagic captures	non-pups	1000 Unobserved	1	0.0002	1	0.2	0.2	0.2	0.2	0.2	0.2
"Elevated risk" procedures		pups	0 Unobserved	1	0.001		0					

	non-pups	0 Unobserved	1	0.001	0							
	Proc	cedure-										
Capture/transport/captivity effects	an	imals										
Transport/holding/release	pups	0 Observed										
		Unobserved										
	non-pups	0 Observed		0	0							
		Unobserved		0.0001	0							
Permanent mark/hot branding	non-pups	0 Observed		0	0							
		Unobserved		0.0001	0							
"Low risk" procedures	pups	0 Observed		0	0							
		Unobserved		0.0001	0							
	non-pups	0 Observed		0	0							
		Unobserved		0.0001	0							
"Med risk" procedures	pups	0 Observed		0	0							
		Unobserved		0.0002	0							
	non-pups	0 Observed		0	0							
		Unobserved		0.0002	0							
"Elevated risk" procedures	pups	0 Observed		0	0							
		Unobserved		0.001	0							
	non-pups	0 Observed		0	0							
		Unobserved		0.001	0							
1) Mortality rates for this EIS activity were not inc	cluded for pups; rates have bee	en inserted that are equal to t	he rates for S	SL pups for this activity	Total	11.39	11.39	11.39	11.39	11.39		

Recaptured the following years as non-pups
 Precipitured the following years as non-pups
 Preci

	Application	Age	Potentially		Proportion	Mortality		Predicted	P	redicted m	ortality by	permit yea	ır	
EIS Activity	activity	class	exposed	Effect	affected	rate	Frequency	mortality	1	2	3	4	5	Comments
Incidental effects due to researcher pres	ence in view of a	animals												
Aerial survey		pups	0	Alert	0.01	0		0						
				Enter water	0.0001	0.001		0						
				Injured	0.00005	0.05		0						
		non-pups	0	Alert	0.01	0		0						
				Enter water	0.005	0.0001		0						
O a least				Injured	0.00001	0.02		0						
On land		pups	0	Alert	0.05	0		0						
catwaiks, tripods,				Enter water	0.0001	0.001		0						
CIIIIS			0	Injurea	0.00005	0.05		0						
		non-pups	0	Alert	0.05	0 0001		0						
				Enter water	0.005	0.0001		0						
Incidental offects due to recorrebor pres	anco omong oni	male		Injulea	0.00001	0.02		0						
Activities involving pup roundups	ence among ann	DUDE	0	Observed		0.00001		0						
Activities involving pup roundups		pups	0	Alort	1	0.00001		0						
				Enter water	0.01	0 001		0						
				Injured	0.01	0.001		0						
		non-nuns			0.001	0.00		0						
		non pups		Enter water	0.8	0.0001		0						
				Injured	0.0005	0.0001		0						
Activities involving clearing rookery/haulout		DUDS	0	Observed	0.0000	0.0001		0						
, tourned interving cleaning reckery, nadioar		papo	Ŭ	Alert	1	0.00001		0						
				Enter water	0.05	0 0001		0						
				Injured	0.0005	0.05		0						
		non-pups	0	Alert	1	0		0						
				Enter water	0.9	0.0001		0						
				Injured	0.0001	0.02		0						
Incidental disturbance during captures		pups	0	Alert	1	0		0						
in breeding season				Enter water	0.001	0.001		0						
ő				Injured	0.001	0.05		0						
		non-pups	0	Alert	1	0		0						
				Enter water	0.01	0.0001		0						
				Injured	0.001	0.02		0						
Incidental disturbance during captures	Activity 1	pups	3000	Alert	1	0	1	0	0	0	0	0	0	1)
outside of breeding season	,			Enter water	0.05	0.0001	1	0.015	0.015	0.015	0.015	0.015	0.015	1)
-				Injured	0.0005	0.05	1	0.075	0.075	0.075	0.075	0.075	0.075	1)
	Activity 1	non-pups	2500	Alert	1	0	1	0	0	0	0	0	0	1)
				Enter water	0.2	0.0001	1	0.05	0.05	0.05	0.05	0.05	0.05	1)
				Injured	0.0001	0.02	1	0.005	0.005	0.005	0.005	0.005	0.005	1)
	Activity 2	pups	3500	Alert	1	0	1	0	0	0	0	0	0	1)
				Enter water	0.05	0.0001	1	0.0175	0.0175	0.0175	0.0175	0.0175	0.0175	1)
				Injured	0.0005	0.05	1	0.0875	0.0875	0.0875	0.0875	0.0875	0.0875	1)
	Activity 2	non-pups	3710	Alert	1	0	1	0	0	0	0	0	0	1)
				Enter water	0.2	0.0001	1	0.0742	0.0742	0.0742	0.0742	0.0742	0.0742	1)
				Injured	0.0001	0.02	1	0.00742	0.00742	0.00742	0.00742	0.00742	0.00742	1)
Capture/restraint effects														
Capture/physical restraint	Activity 2	pups	200	Observed	1	0	1	0	0	0	0	0	0	
				Unobserved	1	0.001	1	0.2	0.2	0.2	0.2	0.2	0.2	
	Activity 1	non-pups	30	Observed	1	0.004	2	0.24	0.24	0.24	0.24	0.24	0.24	
	A			Unobserved	1	0.0001	2	0.006	0.006	0.006	0.006	0.006	0.006	
1	Activity 1	non-pups	5	Observed	1	0.004	1	0.02	0.02	0.02	0.02	0.02	0.02	
Or a first for the second second second				Unobserved	1	0.0001	1	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	
Capture/cnemical anesthesia	Activity 2	non-pups	200	Observed	1	0.004	1	0.8	0.8	0.8	0.8	0.8	0.8	
(innaiable agent-isoflurane)				Unobserved	1	0.0001	1	0.02	0.02	0.02	0.02	0.02	0.02	

Capture/chemical anesthesia		non-pups	0 Observed		0.01		0						
(iniectable)			Unobserved		0.001		0						
Capture/chemical sedation		non-pups	0 Observed		0		0						
(injectable-eg valium)			Unobserved		0.0001		0						
Intentional lethal take or permanent remo	val	pups	0 Observed		1	1	0						
		non-pups	0 Unobserved		1	1	0						
		Р	rocedure-										
Handling effects: estimated increased	risk		animals										
Permanent mark/hot-cold branding		pups	0 Unobserved	1	0.002		0						
		non-pups	0 Unobserved	1	0.0001		0						
"Low risk" procedures	Activity 2	pups	1200 Unobserved	1	0.0001	1	0.12	0.12	0.12	0.12	0.12	0.12	
	Activity 1	non-pups	30 Unobserved	1	0.0001	1	0.003	0.003	0.003	0.003	0.003	0.003	
	Activity 2	non-pups	1000 Unobserved	1	0.0001	1	0.1	0.1	0.1	0.1	0.1	0.1	
"Med risk" procedures	Activity 2	pups	200 Unobserved	1	0.0002	1	0.04	0.04	0.04	0.04	0.04	0.04	
	Activity 2	non-pups	400 Unobserved	1	0.0002	1	0.08	0.08	0.08	0.08	0.08	0.08	
"Elevated risk" procedures		pups	0 Unobserved	1	0.001		0						
		non-pups	0 Unobserved	1	0.001		0						
		P	rocedure-										
Capture/transport/captivity effects			animals										
Transport/holding/release		pups	0 Observed										
			Unobserved										
		non-pups	0 Observed		0		0						
			Unobserved		0.0001		0						
Permanent mark/hot branding		non-pups	0 Observed		0		0						
			Unobserved		0.0001		0						
"Low risk" procedures		pups	0 Observed		0		0						
			Unobserved		0.0001		0						
		non-pups	0 Observed		0		0						
			Unobserved		0.0001		0						
"Med risk" procedures		pups	0 Observed		0		0						
			Unobserved		0.0002		0						
		non-pups	0 Observed		0		0						
			Unobserved		0.0002		0						
"Elevated risk" procedures		pups	0 Observed		0		0						
			Unobserved		0.001		0						
		non-pups	0 Observed		0		0						
			Unobserved		0.001		0						

1) Outside of breeding season, assume all incidental takes are related to captures ("worst case" scenario)

Total 1.96112 1.96112 1.96112 1.96112 1.96112

	Ago	Potontially	Proportion	Mortality		Prodictod	Bradiata	d more	tality by parm	uit voor	
EIS Activity Application activity	class	exposed Effect	affected	rate	Frequency	mortality	1	2	3 4	<u>iit year</u>	Comments
Incidental effects due to researcher presence in view	of animals		uncoted	Tuto	Trequency	mortanty		-	<u> </u>		ooninionto
Aerial survey	DUDS	0 Alert	0.01	0		0					
,	• •	Enter wate	r 0.0001	0.001		0					
		Injured	0.00005	0.05		0					
	non-pups	0 Alert	0.01	0		0	-				
		Enter wate	r 0.005	0.0001		0					
		Injured	0.00001	0.02		0					
On land	pups	0 Alert	0.05	0		0	-				
catwalks, tripods,	• •	Enter wate	r 0.0001	0.001		0					
cliffs		Injured	0.00005	0.05		0					
	non-pups	0 Alert	0.05	0		0	_				
		Enter wate	r 0.005	0.0001		0					
		Injured	0.00001	0.02		0					
Incidental effects due to researcher presence among	animals										
Activities involving pup roundups	pups	0 Observed		0.00001		0					
		Alert	1	0		0					
		Enter wate	r 0.01	0.001		0					
		Injured	0.001	0.05		0					
	non-pups	0 Alert	1	0		0					
		Enter wate	r 0.8	0.0001		0					
		Injured	0.0005	0.02		0					
Activities involving clearing rookery/haulout	pups	0 Observed		0.00001		0					
		Alert	1	0		0					
		Enter wate	r 0.05	0.0001		0					
		Injured	0.0005	0.05		0					
	non-pups	0 Alert	1	0		0					
		Enter wate	r 0.9	0.0001		0					
		Injured	0.0001	0.02		0					
Incidental disturbance during captures	pups	0 Alert	1	0		0					
in breeding season		Enter wate	r 0.001	0.001		0					
		Injured	0.001	0.05		0					
	non-pups	0 Alert	1	0		0					
		Enter wate	r 0.01	0.0001		0					
		Injured	0.001	0.02		0					
Incidental disturbance during cPup capture for permanent	pups	100 Alert	1	0	1	0	0				
outside of breeding season removal		Enter wate	r 0.05	0.0001	1	0.0005	0.0005				
-		Injured	0.0005	0.05	1	0.0025	0.0025				
	non-pups	85 Alert	1	0	1	0	0				
		Enter wate	r 0.2	0.0001	1	0.0017	0.0017				
		Injured	0.0001	0.02	1	0.00017	0.00017				
Capture/restraint effects											
Capture/physical restraint Pup capture for permanen	pups	26 Observed	1	0	1	0	0				Does not include 6 that will be permanently removed
removal		Unobserve	ed 1	0.001	1	0.026	0.026				Does not include 6 that will be permanently removed
	non-pups	0 Observed		0.004		0					
		Unobserve	ed	0.0001		0	-				
Capture/chemical anesthesia	non-pups	0 Observed		0.004		0					
(inhalable agent-isoflurane)		Unobserve	ed	0.0001		0	_				
Capture/chemical anesthesia	non-pups	0 Observed		0.01		0					
(injectable)		Unobserve	ed	0.001		0	_				
Capture/chemical sedation	non-pups	0 Observed		0		0					
(injectable-eg valium)		Unobserve	ed	0.0001		0	_				
Intentional lethal take or perma Pup capture for permanen	pups	6 Observed	1	1	1	6	6				Permanent removal of 6 pups
removal	non-pups	0 Unobserve	d	1	1	0	0				
		Procedure-									
Handling effects: estimated increased risk		animals									
Permanent mark/hot-cold branding	pups	0 Unobserve	ed 1	0.002		0	_				
	non-pups	0 Unobserve	ed 1	0.0001		0	_				

	pups	0 Unobserved	1	0.0001		0			
	non-pups	0 Unobserved	1	0.0001		0			
	pups	0 Unobserved	1	0.0002		0			
	non-pups	0 Unobserved	1	0.0002		0			
	pups	0 Unobserved	1	0.001		0			
	non-pups	0 Unobserved	1	0.001		0			
	P	rocedure-							
y effects		animals							
Pup capture for permanent	pups	2 Observed	1	0	1	0	0	1), 2)	
removal		Unobserved	1	0.001	1	0.002	0.002	1), 2)	
	non-pups	0 Observed		0		0			
		Unobserved		0.0001		0			
ng	non-pups	0 Observed		0		0			
-		Unobserved		0.0001		0			
Pup capture for permanent	pups	4 Observed	1	0	3	0	0	2)	
removal		Unobserved	1	0.0001	3	0.0012	0.0012	2)	
	non-pups	0 Observed		0		0			
		Unobserved		0.0001		0			
	pups	0 Observed		0		0			
		Unobserved		0.0002		0			
	non-pups	0 Observed		0		0			
		Unobserved		0.0002		0			
	pups	0 Observed		0		0			
		Unobserved		0.001		0			
	non-pups	0 Observed		0		0			
		Unobserved		0.001		0			
	y effects Pup capture for permanent removal 9 Pup capture for permanent removal	pups non-pups pups non-pups pups non-pups pups non-pups Pup capture for permanent removal Pup capture for permanent pups non-pups non-pups non-pups pups non-pups non-pups non-pups non-pups non-pups pups non-pups pups non-pups	pups 0 Unobserved non-pups 0 Unobserved Pup capture for permanent removal pups 2 Observed unobserved Unobserved Unobserved Unobserved g non-pups 0 Observed Unobserved removal unobserved Unobserved Unobserved Unobserved Pup capture for permanent removal pups 4 Observed Unobserved Non-pups 0 Observed Unobserved Unobserved Unobserved Unobserved pups 0 Observed Unobserved Unobserved	pups 0 Unobserved 1 non-pups 0 Unobserved 1 pups 0 Unobserved 1 non-pups 0 Unobserved 1 pups 0 Unobserved 1 pups 0 Unobserved 1 non-pups 0 Unobserved 1 non-pups 0 Unobserved 1 veffects animals Pup capture for permanent removal Unobserved 1 non-pups 0 Observed 1 1 non-pups 0 Observed 1 1 non-pups 0 Observed 1 1 1 non-pups 0 Observed 1	pups 0 Unobserved 1 0.0001 non-pups 0 Unobserved 1 0.0001 pups 0 Unobserved 1 0.0002 non-pups 0 Unobserved 1 0.0002 non-pups 0 Unobserved 1 0.001 non-pups 0 Unobserved 1 0.001 non-pups 0 Unobserved 1 0.001 reffects animals Pup capture for permanent removal pups 2 Observed 0 g non-pups 0 Observed 0 0 0 g non-pups 0 Observed 0 <td< td=""><td>pups 0 Unobserved 1 0.0001 non-pups 0 Unobserved 1 0.0001 pups 0 Unobserved 1 0.0002 non-pups 0 Unobserved 1 0.0002 non-pups 0 Unobserved 1 0.0002 pups 0 Unobserved 1 0.001 non-pups 0 Unobserved 1 0.001 removal pups 2 Observed 1 0 1 removal unobserved 1 0.001 1 1 removal unobserved 0 0 1 <th1< th=""> 1 1 <t< td=""><td>pups 0 Unobserved 1 0.0001 0 non-pups 0 Unobserved 1 0.0002 0 pups 0 Unobserved 1 0.0002 0 non-pups 0 Unobserved 1 0.0002 0 pups 0 Unobserved 1 0.001 0 pups 0 Unobserved 1 0.001 0 orn-pups 0 Unobserved 1 0.001 0 veffects animals Procedure- animals Pup 0 Unobserved 1 0 1 0 0 removal pups 2 Observed 0 <</td><td>pups 0 Unobserved 1 0.0001 0 non-pups 0 Unobserved 1 0.0002 0 non-pups 0 Unobserved 1 0.0002 0 pups 0 Unobserved 1 0.001 0 non-pups 0 Unobserved 1 0.001 0 non-pups 0 Unobserved 1 0.001 0 reffects animals non-pups 0 0 0 0 non-pups 0 Observed 1 0.001 1 0.002 non-pups 0 Observed 0</td><td>pups 0 Unobserved 1 0.001 0 non-pups 0 Unobserved 1 0.0002 0 non-pups 0 Unobserved 1 0.0002 0 pups 0 Unobserved 1 0.001 0 non-pups 0 Unobserved 1 0.001 0 non-pups 0 Unobserved 1 0.001 0 reffects animals mon-pups 0 1 0.002 0.002 1), 2) Pup capture for permanent removal pups 0 Observed 0 1 0.002 0.002 1), 2) Imobserved 0.0001 0 0 0 0 1), 2) 0.002 1), 2) Imobserved 0.0001 0</td></t<></th1<></td></td<>	pups 0 Unobserved 1 0.0001 non-pups 0 Unobserved 1 0.0001 pups 0 Unobserved 1 0.0002 non-pups 0 Unobserved 1 0.0002 non-pups 0 Unobserved 1 0.0002 pups 0 Unobserved 1 0.001 non-pups 0 Unobserved 1 0.001 removal pups 2 Observed 1 0 1 removal unobserved 1 0.001 1 1 removal unobserved 0 0 1 <th1< th=""> 1 1 <t< td=""><td>pups 0 Unobserved 1 0.0001 0 non-pups 0 Unobserved 1 0.0002 0 pups 0 Unobserved 1 0.0002 0 non-pups 0 Unobserved 1 0.0002 0 pups 0 Unobserved 1 0.001 0 pups 0 Unobserved 1 0.001 0 orn-pups 0 Unobserved 1 0.001 0 veffects animals Procedure- animals Pup 0 Unobserved 1 0 1 0 0 removal pups 2 Observed 0 <</td><td>pups 0 Unobserved 1 0.0001 0 non-pups 0 Unobserved 1 0.0002 0 non-pups 0 Unobserved 1 0.0002 0 pups 0 Unobserved 1 0.001 0 non-pups 0 Unobserved 1 0.001 0 non-pups 0 Unobserved 1 0.001 0 reffects animals non-pups 0 0 0 0 non-pups 0 Observed 1 0.001 1 0.002 non-pups 0 Observed 0</td><td>pups 0 Unobserved 1 0.001 0 non-pups 0 Unobserved 1 0.0002 0 non-pups 0 Unobserved 1 0.0002 0 pups 0 Unobserved 1 0.001 0 non-pups 0 Unobserved 1 0.001 0 non-pups 0 Unobserved 1 0.001 0 reffects animals mon-pups 0 1 0.002 0.002 1), 2) Pup capture for permanent removal pups 0 Observed 0 1 0.002 0.002 1), 2) Imobserved 0.0001 0 0 0 0 1), 2) 0.002 1), 2) Imobserved 0.0001 0</td></t<></th1<>	pups 0 Unobserved 1 0.0001 0 non-pups 0 Unobserved 1 0.0002 0 pups 0 Unobserved 1 0.0002 0 non-pups 0 Unobserved 1 0.0002 0 pups 0 Unobserved 1 0.001 0 pups 0 Unobserved 1 0.001 0 orn-pups 0 Unobserved 1 0.001 0 veffects animals Procedure- animals Pup 0 Unobserved 1 0 1 0 0 removal pups 2 Observed 0 <	pups 0 Unobserved 1 0.0001 0 non-pups 0 Unobserved 1 0.0002 0 non-pups 0 Unobserved 1 0.0002 0 pups 0 Unobserved 1 0.001 0 non-pups 0 Unobserved 1 0.001 0 non-pups 0 Unobserved 1 0.001 0 reffects animals non-pups 0 0 0 0 non-pups 0 Observed 1 0.001 1 0.002 non-pups 0 Observed 0	pups 0 Unobserved 1 0.001 0 non-pups 0 Unobserved 1 0.0002 0 non-pups 0 Unobserved 1 0.0002 0 pups 0 Unobserved 1 0.001 0 non-pups 0 Unobserved 1 0.001 0 non-pups 0 Unobserved 1 0.001 0 reffects animals mon-pups 0 1 0.002 0.002 1), 2) Pup capture for permanent removal pups 0 Observed 0 1 0.002 0.002 1), 2) Imobserved 0.0001 0 0 0 0 1), 2) 0.002 1), 2) Imobserved 0.0001 0

1) Mortality rates for this EIS activity were not included for pups; rates have been inserted that are 10 times the rates for non-pups, and are eq 2) 2 pups held and released; does not include 6 pups for PERMANENT REMOVAL Total 6.03407

		Age	Potentially	Proportion	Mortality Predicted Predicted mortality by permit year							
EIS Activity	Application activity	class	exposed Effect	affected	rate	Frequency	mortality	1	2	3	4	5 Comments
Aerial survey	e in view of animals	DUDS	5500 Alert	0.01	0	6	0	0	0	0	0	0 Assumes that 55% of 5000 incidental takes are pups
a	erial surveys	pupa	Enter water	0.0001	0.001	6	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033 Assumes that 55% of 5000 incidental takes are pups
_			Injured	0.00005	0.05	6	0.0825	0.0825	0.0825	0.0825	0.0825	0.0825 Assumes that 55% of 5000 incidental takes are pups
		non-pups	4500 Alert	0.01	0	6	0	0	0	0	0	0 Assumes that 45% of 5000 incidental takes are non-pups
			Enter water	0.005	0.0001	6	0.0135	0.0135	0.0135	0.0135	0.0135	0.0135 Assumes that 45% of 5000 incidental takes are non-pups
			Injured	0.00001	0.02	6	0.0054	0.0054	0.0054	0.0054	0.0054	0.0054 Assumes that 45% of 5000 incidental takes are non-pups
On land		pups	0 Alert	0.05	0		0					
catwaiks, tripods,			Enter water	0.0001	0.001		0					
cima		non-pups	0 Alert	0.00005	0.00		0					
			Enter water	0.005	0.0001		0					
			Injured	0.00001	0.02		0					
Incidental effects due to researcher presence	e among animals											
Activities involving pup roundups		pups	0 Observed		0.00001		0					
			Alert	1	0		0					
			Enter water	0.01	0.001		0					
		non-pups	Alert	0.001	0.00		0					
			Enter water	0.8	0.0001		0					
			Injured	0.0005	0.02		0					
												Assumes that 50% of 5000 incidental takes are pups
												(occurs early in pupping season as compared to above
Activities involving clearing rookery/haulout Ir	ncidental to sea lion pup	pups	2500 Observed		0.00001	1	0.025	0.025	0.025	0.025	0.025	0.025 comments)
c	ounts		Alert	1	0	1	0 0125	0 0125	0 0125	0 0125	0 0125	0 Assumes that 50% of 5000 incidental takes are pups
			Injured	0.05	0.0001	1	0.0125	0.0125	0.0125	0.0125	0.0125	0.0625 Assumes that 50% of 5000 incidental takes are pups
		non-pups	2500 Alert	0.0003	0.03	1	0.0025	0.0023	0.0025	0.0025	0.0023	0 Assumes that 50% of 5000 incidental takes are pups
			Enter water	0.9	0.0001	1	0.225	0.225	0.225	0.225	0.225	0.225 Assumes that 50% of 5000 incidental takes are non-pups
			Injured	0.0001	0.02	1	0.005	0.005	0.005	0.005	0.005	0.005 Assumes that 50% of 5000 incidental takes are non-pups
Incidental disturbance during captures		pups	0 Alert	1	0		0					
in breeding season			Enter water	0.001	0.001		0					
			Injured	0.001	0.05		0					
		non-pups	U Alert	0.01	0 0001		0					
			Lniured	0.01	0.0001		0					
Incidental disturbance during captures		nuns	0 Alert	0.001	0.02		0					
outside of breeding season		pape	Enter water	0.05	0.0001		Ő					
C C			Injured	0.0005	0.05		0					
		non-pups	0 Alert	1	0		0					
			Enter water	0.2	0.0001		0					
Contura/restraint offacts			Injured	0.0001	0.02		0					
Capture/restraint enects		DUDS	0 Observed		0		0					
Capture/physical restraint		pups	Unobserved		0.001		0					
		non-pups	0 Observed		0.004		0					
			Unobserved		0.0001		0					
Capture/chemical anesthesia		non-pups	0 Observed		0.004		0					
(inhalable agent-isoflurane)			Unobserved		0.0001		0					
Capture/cnemical anesthesia		non-pups	0 Observed		0.01		0					
(injectable) Capture/chemical sedation		non-nune			0.001		0					
(iniectable-eq valium)		non-pups	Unobserved		0.0001		0					
Intentional lethal take or permanent removal		pups	0 Observed		1	1	0					
·		non-pups	0 Unobserved		1	1	0					
			Procedure-					_				
Handling effects: estimated increased risk			animals		0.000		-					
Permanent mark/hot-cold branding		pups	U Unobserved	1	0.002		0					
"I ow risk" procedures		non-pups		1	0.0001		0					
Low hat procedures		non-pups	0 Unobserved	1	0.0001		0					
"Med risk" procedures		pups	0 Unobserved	1	0.0002		0					
		non-pups	0 Unobserved	1	0.0002		0					
"Elevated risk" procedures		pups	0 Unobserved	1	0.001		0					
		non-pups	0 Unobserved	1	0.001		0					
			Procedure-									
Capture/transport/captivity effects		DUDO	animais 0. Observed									
mansport/holding/release		pups	0 Observed									

l		Unobserved		
	non-pups	0 Observed	0	
Permanent mark/hot branding	non-pups	0 Observed	0.0001	
"Low risk" procedures	pups	0 Observed Unobserved	0	
	non-pups	0 Observed Unobserved	0 0.0001	
"Med risk" procedures	pups	0 Observed Unobserved	0 0.0002	
	non-pups	0 Observed Unobserved	0 0.0002	
"Elevated risk" procedures	pups	0 Observed Unobserved	0 0.001	
	non-pups	0 Observed Unobserved	0 0.001	

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4	5
0	0
1.96112	1.96112
11.39	11.39
0.2728	0.2728
0.2405	0.2405
0.10775	0.10775
48.57683	48.57683
0.10296	0.10296
0.4347	0.4347
63.08666	63.08666

		Pei	mit year			
Permit/Application	1	2	3	4	5	Notes
NMML 782-1889	1.0	1.0	1.0	1.0	1.0	
ADFG 358-1888	15.8	15.8	15.8	15.8	15.8	
OSU 1034-1887	1.3	1.3	1.3	1.3	1.3	
NPUMMRC 715-1885	39.4	39.4	39.4	39.4	39.4	1
ODFW 434-1892	7.4	7.4	7.4	7.4	7.4	
NMML 782-1702	0.1	0.1	0.0	0.0	0.0	
Total	65.0	65.0	64.9	64.9	64.9	
Total w/o NPUMMRC	25.5	25.5	25.5	25.5	25.5	

Estimated mortality due to research activities, Steller sea lion eastern DPS.

Notes

1. Incidental disturbance takes requested in format not accomodated by EIS effects analysis, thus estimated mortalities are much higher than will occur.

		Age	Potentially		Proportion	Mortality		Predicted	Pred	icted mc	rtality by	/ permif	year	
EIS Activity	Application activity	class	exposed	Effect	affected	rate	Frequency	mortality	1	2	3	4	5	Notes
Incidental effects due to researcher	presence in view of animals			L										
Aerial survey	1. Aerial surveys	pups	500	Alert	0.05	0.0	2	0.0	0.0	0.0	0.0	0.0	0.0	
				Enter water	0.001	0.001	2	0.0	0.0	0.0	0.0	0.0	0.0	
		non-pupe	1000	Alert	0.001	0.05	2	0.1	0.1	0.1	0.1	0.1	0.1	
		non-pups	1000	Enter water	0.03	0.0	2	0.0	0.0	0.0	0.0	0.0	0.0	
				Injured	0.0001	0.02	2	0.0	0.0	0.0	0.0	0.0	0.0	
Vessel surveys	2. Vessel surveys	pups	85	Alert	1	0.0	2	0.0	0.0	0.0	0.0	0.0	0.0	1.2
				Enter water	0	0.001	2	0.0	0.0	0.0	0.0	0.0	0.0	,
				Injured	0.01	0.05	2	0.1	0.1	0.1	0.1	0.1	0.1	
		non-pups	85	Alert	1	0.0	2	0.0	0.0	0.0	0.0	0.0	0.0	1, 2
		(breeding season)		Enter water	0.1	0.0001	2	0.0	0.0	0.0	0.0	0.0	0.0	/
				Injured	0.0001	0.02	2	0.0	0.0	0.0	0.0	0.0	0.0	/
		non-pups	166	Alert	1	0.0	10	0.0	0.0	0.0	0.0	0.0	0.0	1, 2
		(non-breeding season)		Enter water	0.3	0.0001	10	0.0	0.0	0.0	0.0	0.0	0.0	
				Injured	0.0001	0.02	10	0.0	0.0	0.0	0.0	0.0	0.0	1
On land		pups	C	Alert	0.05	0.0		0.0	·'				⊢	
				Enter water	0	0.001		0.0	·'	┝───┘			<u> </u>	
				Alort	0.001	0.05		0.0	[_]	┢────┤			<u> </u>	
		non-pups	L L	Alert Enter water	0.05	0.0		0.0		├ ──┤			<u> </u>	
				Injured	0.01	0.0001		0.0	· · · · · ·	├ ──┤				
Incidental effects due to researcher	presence among animals			Injuled	0.0001	0.02	LI	0.0						
On rookeries during breeding season	3. Ground counts	DUDS	2000	Alert	1	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	
(ground counts, scats, captures)		F - F -		Enter water	0.01	0.001	1	0.0	0.0	0.0	0.0	0.0	0.0	,
1.5				Injured	0.001	0.05	1	0.1	0.1	0.1	0.1	0.1	0.1	
Roundups for branding			200	Observed mortality during activity	1	0.007	1	1.4	1.4	1.4	1.4	1.4	1.4	
On rookeries during breeding season	Ground counts	non-pups	4000	Alert	1	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	,
(ground counts, scats, captures)				Enter water	0.9	0.0001	1	0.4	0.4	0.4	0.4	0.4	0.4	
				Injured	0.0001	0.02	1	0.0	0.0	0.0	0.0	0.0	0.0	/
Haulouts, rookeries non-breeding	 Incidental harassment 	pups		Alert	1	0.0		0.0	ا ا				L	
(scats, resights, captures)				Enter water	0.9	0.0001		0.0	'				L	
				Injured	0.0001	0.02		0.0						
		non-pups	10000	Alert	1	0.0	5	0.0	0.0	0.0	0.0	0.0	0.0	3
				Enter water	0.9	0.0001	5	4.5	4.5	4.5	4.5	4.5	4.5	
Conturo/rostraint offocts			l	Injured	0.0001	0.02	5	0.1	0.1	0.1	0.1	0.1	0.1	
Capture/restraint effects		DUDS		Linobserved/post-capture mortality	1	0.001	1	0.0		· · · · ·			-	
Capture/physical restraint		pop-pups	0	Observed mortality during activity	1	0.001		0.0		⊢				
				Unobserved/post-capture mortality	1	0.0001		0.0	· · · · · ·				<u> </u>	-
Capture/chemical anesthesia	4, 5, 6 Captures	pups	200	Unobserved/post-capture mortality	1	0.001	1	0.2	0.2	0.2	0.2	0.2	0.2	
(inhalable agent-isoflurane)		non-pups	C	Observed mortality during activity	1	0.004		0.0					1	
· · · ·				Unobserved/post-capture mortality	1	0.0001		0.0					1	
Capture/chemical anesthesia		non-pups	C	Observed mortality during activity	1	0.034		0.0						
(injectable)				Unobserved/post-capture mortality	1	0.011		0.0	ļ'				ļ	
Capture/chemical sedation		non-pups	C	Observed mortality during activity	1	0		0.0	·'				L	
(injectable-eg valium)				Unobserved/post-capture mortality	1	0.0001		0.0	·	<u> </u>			Ļ	
Lethal take or permanent removal		pups	C	Observed mortality during activity	1	1	1	0.0	·'	<u> </u>			<u> </u>	
		non-pups	Dessedues	Observed mortality during activity	1	1	1	0.0					<u> </u>	
Handling offector estimated increase	d riok		Procedure-											
Permanent mark/hot branding	a risk	DUDC	animais	Linobson/od/post conture mortality	1	0.002	1	0.4	0.4	0.4	0.4	0.4	0.4	
Fernarient markhot branding		pups	200	Linobserved/post-capture mortality	1	0.002	1	0.4	0.4	0.4	0.4	0.4	0.4	
"Low risk" procedures		nuns	0	Unobserved/post-capture mortality	1	0.0001	1	0.0	0.1	01	01	0.1	0.1	+
	-	non-pups	000	Unobserved/post-capture mortality	1	0.0001	1	0.1	0.1	0.1	0.1	0.1	0.1	+
"Med risk" procedures		pups	0	Unobserved/post-capture mortality	1	0.0002	1	0.0		ł			1	1
		non-pups	C	Unobserved/post-capture mortality	1	0.0002	1	0.0					í	1
"Elevated risk" procedures		pups	C	Unobserved/post-capture mortality	1	0.001	1	0.0					í	1
		non-pups	C	Unobserved/post-capture mortality	1	0.001	1	0.0					<u> </u>	
Notes							Т	otal by year:	7.4	7.4	7.4	7.4	7.4	
1. By EIS defintion "pups" are on rooke	eries during Jun/Jul. Thus, "pupe	s" for remaining 10 months	are lumped wit	n non-pup age class.										
2. 2000 takes is the maximum expected	d take for the entire year, inclusiv	e of repeat surveys which a	are likely to be	2/month for six months (Bryan Wright	, ODFW).	-								
Thus for the purposes of an effects an	nalysis, the 2000 total takes are	distributed across age/seas	on categories	with repeats to total 2000. This may r	not reflect the tru	e distribution	l.							
Assume that breeding season rookie	ry disturbances covered under "	ground counts", thus all this	disturbance is	attrbutable to non-breeding season.						I			1	1

		Age	Potentially		Proportion	Mortality		Predicted	Pre	dicted m	ortality by	permit year		
EIS Activity	Application activity	class	exposed	Effect	affected	rate	Frequency	mortality	1	2	3	4	5	Notes
Incidental effects due to researcher p	presence in view of animals													
Aerial survey		pups		Alert	0.05	0.0		0.0						
				Enter water	0	0.001		0.0						
				Injured	0.001	0.05		0.0						
		non-pups		Alert	0.05	0.0		0.0						
				Enter water	0.01	0.0001		0.0			r i			
				Injured	0.0001	0.02		0.0						
Vessel surveys		pups		Alert	1	0.0		0.0						
				Enter water	0	0.001		0.0			r i			
				Injured	0.01	0.05		0.0						
		non-pups		Alert	1	0.0		0.0						
		(breeding season)		Enter water	0.1	0.0001		0.0			1			
				Injured	0.0001	0.02		0.0			1			
		non-pups		Alert	1	0.0		0.0						
		(non-breeding season)		Enter water	0.3	0.0001		0.0				-		
				Injured	0.0001	0.02		0.0				-		
On land	3. Behavioral/demographic	pups	334	Alert	0.05	0.0	61	0.0	0.0	0.0	0.0	0.0	0.0	1
	observations	(Jun-Jul)		Enter water	0	0.001	61	0.0	0.0	0.0	0.0	0.0	0.0	
				Injured	0.001	0.05	61	1.0	1.0	1.0	1.0	1.0	1.0	
		non-pups	4666	Alert	0.05	0.0	61	0.0	0.0	0.0	0.0	0.0	0.0	1
		(Jun-Jul)		Enter water	0.01	0.0001	61	0.3	0.3	0.3	0.3	0.3	0.3	
				Injured	0.0001	0.02	61	0.6	0.6	0.6	0.6	0.6	0.6	
		non-pups	5000	Alert	0.05	0.0	304	0.0	0.0	0.0	0.0	0.0	0.0	1
		(Aug-May)		Enter water	0.01	0.0001	304	1.5	1.5	1.5	1.5	1.5	1.5	
				Injured	0.0001	0.02	304	3.0	3.0	3.0	3.0	3.0	3.0	
Incidental effects due to researcher p	presence among animals													
On rookeries during breeding season	1. Incidental disturbance for	pups	1000	Alert	1	0.0	2	0.0	0.0	0.0	0.0	0.0	0.0	2
(ground counts, scats, captures)	scat collection, monitoring,			Enter water	0.01	0.001	2	0.0	0.0	0.0	0.0	0.0	0.0	
(5)	cameras, aerial surveys, etc.			Injured	0.001	0.05	2	0.1	0.1	0.1	0.1	0.1	0.1	
Roundups for branding	,,,,,,		0	Observed mortality during activity	1	0.007		0.0						
On rookeries during breeding season	1. Incidental disturbance for	non-pups	14000	Alert	1	0.0	2	0.0	0.0	0.0	0.0	0.0	0.0	2
(ground counts, scats, captures)	scat collection, monitoring,			Enter water	0.9	0.0001	2	2.5	2.5	2.5	2.5	2.5	2.5	
(5)	cameras, aerial surveys, etc.			Injured	0.0001	0.02	2	0.1	0.1	0.1	0.1	0.1	0.1	
Haulouts, rookeries non-breeding	1. Incidental disturbance for	pups	0	Alert	1	0.0		0.0						
(scats, resights, captures)	scat collection, monitoring.	F -F -	-	Enter water	0.9	0.0001		0.0						
()	cameras, aerial surveys, etc.			Injured	0.0001	0.02		0.0					-	
		non-pups	15000	Alert	1	0.0	10	0.0	0.0	0.0	0.0	0.0	0.0	2
				Enter water	0.9	0.0001	10	13.5	13.5	13.5	13.5	13.5	13.5	
				Injured	0.0001	0.02	10	0.3	0.3	0.3	0.3	0.3	0.3	
On rookeries during breeding season	2. Harrasment from collection	pups	1000	Alert	1	0.0	2	0.0	0.0	0.0	0.0	0.0	0.0	3
(ground counts, scats, captures)	of carcasses.	F -F -		Enter water	0.01	0.001	2	0.0	0.0	0.0	0.0	0.0	0.0	
(3.0000 00000)				Injured	0.001	0.05	2	0.1	0.1	0.1	0.1	0.1	0.1	
Roundups for branding			0	Observed mortality during activity	1	0.007		0.0	-					
On rookeries during breeding season	2. Harrasment from collection	non-pups	14000	Alert	1	0.0	2	0.0	0.0	0.0	0.0	0.0	0.0	3
(ground counts, scats, captures)	of carcasses.			Enter water	0.9	0.0001	2	2.5	2.5	2.5	2.5	2.5	2.5	
(3.2				Injured	0.0001	0.02	2	0.1	0.1	0.1	0.1	0.1	0.1	
Haulouts, rookeries non-breeding	2. Harrasment from collection	pups	0	Alert	1	0.0		0.0						
(scats, resights, captures)	of carcasses.	5450		Enter water	0.9	0.0001		0.0						
(******, **** 3 ****, ***				Injured	0.0001	0.02		0.0			1			
		non-pups	15000	Alert	1	0.0	10	0.0	0.0	0.0	0.0	0.0	0.0	3
			10000	Enter water	0.9	0.0001	10	13.5	13.5	13.5	13.5	13.5	13.5	
				Injured	0.0	0.02	10	0.3	0.3	0.3	0.3	0.3	0.3	
	1			Injurou	0.0001	0.02		otal by year	39.4	30 /	30.0	39.4	30 /	
Notes:	1							star by year.	55.4	53.4			55.4	
1 Behavioral/demographic observation	s conducted from blinds (pg. 23)	so there will be zero take	s However the	se estimated assuming 61 days (lun-	Jul) of 365 days	are during b	reeding seaso	n and 40% on	rookery are r		-G estimate			
2 Requested takes span several activit	ies classified as 'in-view' or 'amor	animals so without add	titional quidance	e all requested takes were lumped int	o most concerv	ative category	/	, and 40 /0 011				<u>r</u>		
However, applicant asked for takes b	ased on potential number of anim	ng ammais, su williout due	ctual number of	ticinated to be disturbed. The EIS or	alutical framou	ork did not a	r. Idroce this type	e of request for	incidental di	sturbanco		—————		
Thus, this estimate for potential morta	lities is only correct if all animals	ancountered were disturb	ad This is a ar	nicipated to be disturbed. The EIS di	anyuca namew	on all not all	aneaa mia typ	o or request IOI	molueritai uit	Tanbance	<u>u.</u>	—————		
3 Applicant requested takes based on	nation is only context if all animals proc	ant rather than actual pur	ber enticipated	to be disturbed. The EIS analytical f	ramework did n	ot address thi	s type of requi	est for incident	al disturbance		 	—————		
Thus this estimate for potential morta	lities is only correct if all animals	encountered were disturb	ed This is a ar	nes aross overestimate			s type of reque			<u>.</u>	ł			
i mas, and estimate for potential mona	annoo io onny concorn an ammala	SHOGALIGIGA WEIG ABLUID	ou a y .	soo, groos overestinate.	1				1				1	

NMML's east SSL predicted mortality calculations.xlsOSU 1034.1887

		Age	Potentially		Proportion	Mortality		Predicted	l	Predicted m	nortality by	permit year		
EIS Activity	Application activity	class	exposed	Effect	affected	rate	Frequency	mortality	1	2	3	4	5	Notes
Incidental effects due to researcher pr	resence among animals													
On rookeries during breeding season		pups	0	Alert	1	0.0		0.0						
(ground counts, scats, captures)				Enter water	0.01	0.001		0.0						
				Injured	0.001	0.05		0.0						
Roundups for branding			0	Observed mortality during activity	1	0.007		0.0						
On rookeries during breeding season		non-pups	0	Alert	1	0.0		0.0						
(ground counts, scats, captures)				Enter water	0.9	0.0001		0.0						
				Injured	0.0001	0.02		0.0						
Haulouts, rookeries non-breeding		pups	0	Alert	1	0.0		0.0						
(scats, resights, captures)				Enter water	0.9	0.0001		0.0						
				Injured	0.0001	0.02		0.0						
	Task 2 inc. dist. For													
	installations	non-pups	1500	Alert	1	0.0	8	0.0	0.0	0.0	0.0	0.0	0.0	1
				Enter water	0.9	0.0001	8	1.1	1.1	1.1	1.1	1.1	1.1	
				Injured	0.0001	0.02	8	0.0	0.0	0.0	0.0	0.0	0.0	
	Task 2 inc. dist. For													
	servicing	non-pups	1200	Alert	1	0.0	2	0.0	0.0	0.0	0.0	0.0	0.0	1
				Enter water	0.9	0.0001	2	0.2	0.2	0.2	0.2	0.2	0.2	
				Injured	0.0001	0.02	2	0.0	0.0	0.0	0.0	0.0	0.0	
							Т	otal by year:	1.3	1.3	1.3	1.3	1.3	
Notes								-						
1. Non-breeding season activities (page	27 & Table 2). Reflects a	maximum, not likely actu	al, predicted m	ortality because installations will likely	occur well-away	from animals	s, or when no a	nimals are pre	sent (Horn	ing).				

		Age	Potentially		Proportion	Mortality		Predicted	Pre	dicted m	ortality by	permit year		
EIS Activity	Application activity	class	exposed	Effect	affected	rate	Frequency	mortality	1	2	3	4	5	Notes
Incidental effects due to researcher p	resence in view of animal	s	-		r	-					I			
Aerial survey	ρι	lps	0	Alert	0.05	0.0		0.0						
				Enter water	0	0.001		0.0						
				Injured	0.001	0.05		0.0						
	nc	on-pups	20000	Alert	0.05	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	1
				Enter water	0.01	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	
Vossal sunvovs	n	inc	10000	Alort	0.0001	0.02	1	0.0	0.0	0.0	0.0	0.0	0.0	2
vessel sulveys	μ	lhe	10000	Enter water	1	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	2
				Injured	0.01	0.001	1	5.0	5.0	5.0	5.0	5.0	5.0	5
	n	on-pups	15000	Alert	1	0.00	1	0.0	0.0	0.0	0.0	0.0	0.0	4
	(h	reeding season)		Enter water	0.1	0.0001	1	0.2	0.2	0.2	0.2	0.2	0.2	-
		······································		Injured	0.0001	0.02	1	0.0	0.0	0.0	0.0	0.0	0.0	
	n	on-pups	0	Alert	1	0.0		0.0						
	(n	on-breeding season)		Enter water	0.3	0.0001		0.0						
				Injured	0.0001	0.02		0.0						
On land	ρι	adr	0	Alert	0.05	0.0		0.0						
				Enter water	0	0.001		0.0						
				Injured	0.001	0.05		0.0						
	n	on-pups	0	Alert	0.05	0.0		0.0						
				Enter water	0.01	0.0001		0.0						
				Injured	0.0001	0.02		0.0						
Incidental effects due to researcher p	resence among animais		000	Alast		0.0	4	0.0	0.0	0.0	0.0	0.0		507
On rookenes during breeding season	βί	lps	960	Alen Enter weter	0.01	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	5, 6, 7
(ground counts, scats, captures)					0.01	0.001	1	0.0	0.0	0.0	0.0	0.0	0.0	
Rounduns for branding			800	Observed mortality during activity	0.001	0.03	1	5.6	5.6	5.6	5.6	5.6	5.6	
On rookeries during breeding season	n	on-pups	1440	Alert	1	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	6.8
(ground counts, scats, captures)		in pupo		Enter water	0.9	0.0001	1	0.1	0.1	0.1	0.1	0.1	0.1	0,0
(<u>g</u>				Injured	0.0001	0.02	1	0.0	0.0	0.0	0.0	0.0	0.0	
Haulouts, rookeries non-breeding	р	lps	2520	Alert	1	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	9
(scats, resights, captures)				Enter water	0.9	0.0001	1	0.2	0.2	0.2	0.2	0.2	0.2	
				Injured	0.0001	0.02	1	0.0	0.0	0.0	0.0	0.0	0.0	
	no	on-pups	10080	Alert	1	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	10
				Enter water	0.9	0.0001	1	0.9	0.9	0.9	0.9	0.9	0.9	
				Injured	0.0001	0.02	1	0.0	0.0	0.0	0.0	0.0	0.0	11
Capture/restraint effects	1		-		I									
Capture/physical restraint	рі	lps	0	Unobserved/post-capture mortality	1	0.001		0.0						
	nc	on-pups	0	Observed mortality during activity	1	0.002		0.0						
Or a transfer to a sector of the sector			000	Unobserved/post-capture mortality	1	0.0001		0.0	0.0	0.0	0.0	0.0		
Capture/chemical anesthesia	pi	ups	800	Observed/post-capture mortality	1	0.001	1	0.8	0.8	0.8	0.8	0.8	0.8	10
		JII-pups	115	Upshaan ved/past conture mortality	1	0.004	1	0.5	0.5	0.5	0.5	0.5	0.5	12
Capture/chemical anesthesia	n	201-0105	5	Observed mortality during activity	1	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	
(injectable)		ni-pups	5	Unobserved/post-capture mortality	1	0.034	1	0.2	0.2	0.2	0.2	0.2	0.2	
Capture/chemical sedation	n	on-pups	5	Observed mortality during activity	1	0.011		0.0	0.0	0.0	0.0	0.0	0.0	
(injectable-eg valium)		··· F •F •		Unobserved/post-capture mortality	1	0.0001		0.0	0.0	0.0	0.0	0.0	0.0	
Lethal take or permanent removal	pu	lps	0	Observed mortality during activity	1	1	1	0.0						
	n	, on-pups	0	Observed mortality during activity	1	1	1	0.0						
			Procedure-											
Handling effects: estimated increased	d risk		animals											
Permanent mark/hot branding	ρι	lps	800	Unobserved/post-capture mortality	1	0.002	1	1.6	1.6	1.6	1.6	1.6	1.6	
	nc	on-pups	115	Unobserved/post-capture mortality	1	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	
"Low risk" procedures	pu	lps	2770	Unobserved/post-capture mortality	1	0.0001	1	0.3	0.3	0.3	0.3	0.3	0.3	
	na	on-pups	1290	Unobserved/post-capture mortality	1	0.0001	1	0.1	0.1	0.1	0.1	0.1	0.1	
"Med risk" procedures	pu	lps	20	Unobserved/post-capture mortality	1	0.0002	1	0.0						
	no	on-pups	275	Unobserved/post-capture mortality	1	0.0002	1	0.1	0.1	0.1	0.1	0.1	0.1	
"Elevated risk" procedures	рі	ups		Unobserved/post-capture mortality	1	0.001	1	0.0						

	non-pups		Unobserved/post-capture mortality	1	0.001	1	0.0						
						1	Total by year:	15.8	15.8	15.8	15.8	15.8	
Notes:													
1. Pg 9: 2000 individuals up to 10X; Feb-May. Takes listed as 'p	otentially exposed' are m	aximum numbe	r of requested takes, regardless of fre	equency (Rea-Al	DFG)								
2. Assumes pups comprise 40% of the total rookery population (I	Rea-ADFG)												
3. Distribution of resight effort will change year to year - assumed	d all in breeding season fo	or this exercise	given that is when most impact is cal	culated (typically	will have 10-	20% of the res	ight effort durir	ng non-bree	ding season) (F	Rea-ADF	G).		
4. Assumes non-pups comprise 60% of the total rookery populati	ion (Rea-ADFG)												
5. Scat collection on rookeries during BS only if branding (Rea-A	DFG).												
6. No captures during breeding season (other than pups for bran	ding) (Rea-ADFG)												
7. Assumes pups comprise 30% of the total rookery population (I	Rea-ADFG)												
8. Assumes non-pups comprise 70% of the total rookery populati	ion (Rea-ADFG)												
9. Assumes pups comprise 20% of the total haulout population (F	Rea-ADFG)												
10. Assumes non-pups comprise 80% of the total haulout popula	ition (Rea-ADFG)												
11. Total requested under activity 3 EDPS (Rea-ADFG)													
12. The number given as "potentially exposed" is the total number	er of takes requested for t	the year, a subs	set of which may be animals that are I	nandled in multip	le capture trip	os							
(recaptures = up to 4 captures per year). Each subsequent ca	apture of the same anima	al counts as one	additional take towards the total. Th	us, 115 are the	total captures	(Rea-ADFG).							

		Age	Potentially		Proportion	Mortality		Predicted		Predicted m	ortality by p	ermit year	•	
EIS Activity	Application activity	class	exposed	Effect	affected	rate	Frequency	mortality	1	2	3	4	5	Notes
Incidental effects due to research	er presence in view of animals	2 2002	6000	Alort	0.05	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	1
Aeriai Survey	1. Aerial survey breeding seaso	n pups	6000	Enterwater	0.05	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	-
				Injured	0.001	0.001	1	0.0	0.0	0.0	0.0	0.0	0.0	
		non-pups	10000	Alert	0.001	0.05	1	0.0	0.0	0.0	0.0	0.0	0.0	1
		non papa	10000	Enter water	0.00	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	· ·
				Injured	0.0001	0.02	1	0.0	0.0	0.0	0.0	0.0	0.0	i i
	2. Aerial survey non-breeding	non-pups	10000	Alert	0.05	0.0	4	0.0	0.0	0.0	0.0	0.0	0.0	1
	season			Enter water	0.01	0.0001	4	0.0	0.0	0.0	0.0	0.0	0.0	··
				Injured	0.0001	0.02	4	0.1	0.1	0.1	0.1	0.1	0.1	
Vessel surveys		pups		Alert	1	0.0		0.0						
				Enter water	0	0.001		0.0						
				Injured	0.01	0.05		0.0						1
		non-pups		Alert	1	0.0		0.0						
		(breeding season)		Enter water	0.1	0.0001		0.0						1
				Injured	0.0001	0.02		0.0						
		non-pups		Alert	1	0.0		0.0						1
		(non-breeding season)		Enter water	0.3	0.0001		0.0						
				Injured	0.0001	0.02		0.0						I
On land		pups		Alert	0.05	0.0		0.0						
				Enter water	0	0.001		0.0						
				Injured	0.001	0.05		0.0						
		non-pups		Alert	0.05	0.0		0.0						
				Enter water	0.01	0.0001		0.0						
				Injured	0.0001	0.02		0.0						
Incidental effects due to research	er presence among animals	1	-	1	т <u> </u>		1	1		1				-
On rookeries during breeding seaso	n	pups		Alert	1	0.0		0.0						
(ground counts, scats, captures)				Enter water	0.01	0.001		0.0						
				Injured	0.001	0.05		0.0						
Roundups for branding			-	Observed mortality during activity	1	0.007		0.0						
On rookeries during breeding seaso	n	non-pups		Alert	1	0.0		0.0						
(ground counts, scats, captures)				Enter water	0.9	0.0001		0.0						
Houloute, realizing near breading		0000		Alert	0.0001	0.02		0.0						
Haulouts, rookeries non-breeding		pups		Alert Enter water	1	0.0		0.0						
(scals, resignis, captures)				Enter water	0.9	0.0001		0.0						
			5000	Alort	0.0001	0.02	1	0.0	0.0	0.0	0.0	0.0	0.0	2
		поп-рара	5000	Enter water	0.9	0.001	1	0.0	0.0	0.0	0.0	0.0	0.0	2
				Injured	0.001	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	
Capture/restraint effects				injured	0.0001	0.02	· ·	0.0	0.0	0.0	0.0	0.0	0.0	
Capture/physical restraint		DUDS	[(Unobserved/post-capture mortality	1	0.001	1	0.0	0.0	0.0	0.0	0.0	0.0	
		non-pups	0	Observed mortality during activity	1	0.002	1	0.0	0.0	0.0	0.0	0.0	0.0	
				Unobserved/post-capture mortality	1	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	
Capture/chemical anesthesia		pups	0	Unobserved/post-capture mortality	1	0.001	1	0.0						
(inhalable agent-isoflurane)		non-pups	24	Observed mortality during activity	1	0.004	1	0.1	0.1	0.1	0.1	0.1	0.1	3
				Unobserved/post-capture mortality	1	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	1
Capture/chemical anesthesia		non-pups		Observed mortality during activity	1	0.034		0.0						
(injectable)				Unobserved/post-capture mortality	1	0.011		0.0						1
Capture/chemical sedation		non-pups		Observed mortality during activity	1	0		0.0						1
(injectable-eg valium)				Unobserved/post-capture mortality	1	0.0001		0.0						
Lethal take or permanent removal		pups		Observed mortality during activity	1	1	1	0.0						
		non-pups		Observed mortality during activity	1	1	1	0.0						l
			Procedure-											
Handling effects: estimated increa	ased risk	-	animals		1 -1		1							
Permanent mark/hot branding		pups	C	Unobserved/post-capture mortality	1	0.002	1	0.0						
		non-pups	24	Unobserved/post-capture mortality	1	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	
"Low risk" procedures		pups		Unobserved/post-capture mortality	1	0.0001	1	0.0						
		non-pups	144	Unobserved/post-capture mortality	1	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	
"Med risk" procedures		pups	48	Unobserved/post-capture mortality	1	0.0002	1	0.0	0.0	0.0	0.0	0.0	0.0	
		non-pups		Unobserved/post-capture mortality	1	0.0002	1	0.0						
"Elevated risk" procedures		pups		Unobserved/post-capture mortality	1	0.001	1	0.0						
N		non-pups	4	Unopserved/post-capture mortality	1	0.001	1	0.0						
Notes			n and defined and	(mailenting an 44)				otal by year:	1.0	1.0	1.0	1.0	1.0	
1. These are the maximum numbers	s expected to be taken, inclusive of pot	tential for some to be take	n multiple times	(application pg. 11).										1
Maximum number of expected ta	kes, inclusive of up to 5 repeated take	s (application page 15).	1											ı

NMML's east SSL predicted mortality calculations.xIsNMML 782.1889

		Age	Potentially		Proportion	Mortality		Predicted		Predicted r	nortality by	permit yea	ar	
EIS Activity	Application activity	class	exposed	Effect	affected	rate	Frequency	mortality	1	2	3	4	5	Notes
3. Maximum number of expected captu	ires, inclusive of recaptures.													

NMML's east SSL predicted mortality calculations.xlsNMML 782.1702

		Age	Potentially		Proportion	Mortality		Predicted	P	redicted m	ortality by	permit yea	r	
EIS Activity	Application activity	class	exposed	Effect	affected	rate	Frequency	mortality	1	2	3	4	5	Notes
Incidental effects due to resea	rcher presence in view of animals													
Aerial survey	Harassment incidental to aerial surveys	non-pups	4500	Alert	0.05	0.0	5	0.0	0.0	0.0				1, 2
				Enter water	0.01	0.0001	5	0.0	0.0	0.0				
				Injured	0.0001	0.02	5	0.0	0.0	0.0				
							-	otal by year:	0.1	0.1	0.0	0.0	0.0	3
Notes:														
1. Permit states 4,500 takes up to	o 40x per year, but only about 5 surveys per	year are conduct	ed (Pat Gearin,	NMML).										
2. Surveys are for WA (no breed	ing areas) or OR haulouts.													

Estimated mortalit	y due to research	activities, Stel	ler sea lion	western DPS.
		,		

		Pe	rmit year			
Permit/Application	1	2	3	4	5	Notes
NMML 782-1889	8.7	8.3	8.3	8.3	8.7	
UAF/AEB 1049-1886	1.2	2.7	1.2	2.7	1.2	
ADFG 358-1888	2.3	2.3	2.3	2.3	2.3	
OSU 1034-1887	3.1	3.1	3.1	3.1	3.1	
NPUMMRC 715-1884	0.0	0.0	0.0	0.0	0.0	
NPUMMRC 715-1885	100.0	100.0	100.0	100.0	100.0	1
ASLC 881-1890	12.0	12.0	12.0	12.0	12.0	
St Paul 1118-1881	0.0	0.0	0.0	0.0	0.0	
St George 1119-1882	0.0	0.0	0.0	0.0	0.0	
Total	127.4	128.5	127.0	128.5	127.4	
Total w/o NPUMMRC inc. dist.	27.4	28.5	27.0	28.5	27.4	

Notes

1. Incidental disturbance takes requested in format not accomodated by EIS effects analysis, thus estimated mortalities are inaccurate and much higher than will occur.

NMML's west SSL predicted mortality calculations.xlsSt Paul 1118.1881

		Age	Potentially		Proportion	Mortality		Predicted	Predi	cted mor	tality by	permit y	ear	
EIS Activity	Application activity	class	exposed	Effect	affected	rate	Frequency	mortality	1	2	3	4	5	Notes
Incidental effects due to researcher pr	resence among animals													
Haulouts, rookeries non-breeding	1. Incidental disturbance	pups	0	Alert	1	0.0		0.0						
(scats, resights, captures)				Enter water	0.9	0.0001		0.0						
				Injured	0.0001	0.02		0.0						
		non-pups	5	Alert	1	0.0	12	0.0	0.0	0.0	0.0	0.0	0.0	1
				Enter water	0.9	0.0001	12	0.0	0.0	0.0	0.0	0.0	0.0	
				Injured	0.0001	0.02	12	0.0	0.0	0.0	0.0	0.0	0.0	
Notes:							٦	otal by year:	0.0	0.0	0.0	0.0	0.0	
1. Entered into most conservative (ie, gre	eatest risk) category.													

NMML's west SSL predicted mortality calculations.xlsNPUMMRC 715.1884

		Age	Potentially		Proportion	Mortality		Predicted	Prec	licted mo	rtality by	y permit	year	
EIS Activity	Application activity	class	exposed	Effect	affected	rate	Frequency	mortality	1	2	3	4	5	Notes
Incidental effects due to researcher p	resence among animals													
On rookeries during breeding season	Incidental to fur seal research	pups	37 Alert		1	0.0	5	0.0	0.0	0.0	0.0	0.0	0.0	1, 2
(ground counts, scats, captures)	under 715-1884		Enter water		0.01	0.001	5	0.0	0.0	0.0	0.0	0.0	0.0	
			Injured		0.001	0.05	5	0.0	0.0	0.0	0.0	0.0	0.0	
		non-pups	63 Alert		1	0.0	5	0.0	0.0	0.0	0.0	0.0	0.0	
			Enter water		0.9	0.0001	5	0.0	0.0	0.0	0.0	0.0	0.0	
			Injured		0.0001	0.02	5	0.0	0.0	0.0	0.0	0.0	0.0	
Haulouts, rookeries non-breeding		pups	Alert		1	0.0		0.0						
(scats, resights, captures)			Enter water		0.9	0.0001		0.0						
			Injured		0.0001	0.02		0.0						
		non-pups	Alert		1	0.0		0.0						
			Enter water		0.9	0.0001		0.0						
			Injured		0.0001	0.02		0.0						
							Т	otal by year:	0.0	0.0	0.0	0.0	0.0	
Notes:														
1. Assume 37% present are pups based	on NMML aerial surveys and pup	ground counts.												
2. Assume all 5 repeats are during sea li	on breeding season (Jun/Jul)													

EIS Activity Application activity class exposed Effect affected rate Frequency mortality 1 2 3 4 5 Incidental effects due to researcher presence in view of animals <	Notes
Incidental effects due to researcher presence in view of animals Aerial survey pups Alert 0.05 0.0 0.0 0 </th <th></th>	
Aerial survey pups Alert 0.05 0.0 0.0 0<	
Enter water 0 0.01 0.0 0 Injured 0.01 0.05 0.0 0 0 Inipured 0.01 0.05 0.0 0 0 0 Inipured 0.05 0.0 0.0 0 0 0 0 Inipured 0.05 0.05 0.0 0.0 0.0 0 0 0	
Injured 0.01 0.05 0.0 Image: constraint of the state of t	
non-pups Alert 0.05 0.0 0.0 Enter water 0.01 0.001 0.01 0.01 0.01	
Enter water 0.01 0.0001 0.01	
Injured 0.0001 0.02 0.0	
Vessel surveys pups Alert 1 0.0 0.0	
Enter water 0 0.001 0.0	
Injured 0.01 0.05 0.0	
non-pups Alert 1 0.0 0.0	
(breeding season) Enter water 0.1 0.001 0.0	1
Injured 0.0001 0.02 0.0	
non-pups Alert 1 0.0 0.0	
(non-breeding season) Enter water 0.3 0.001 0.0	
Injured 0.0001 0.02 0.0	
On land 3. Behavioral/demographic pups 668 Alert 0.05 0.0 61 0.0	ו 1
observations (Jun-Jul) Enter water 0 0.00 61 0.0 <td>)</td>)
Injured 0.001 0.05 61 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0)
non-pups 4332 Alert 0.05 0.0 61 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.) 1
(Jun-Jul) Enter water 0.01 0.000 61 0.3 0.3 0.3 0.3 0.3 0.3 0.3	\$
Injured 0.0001 0.02 61 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	j
non-pups 10000 Alert 0.05 0.0 304 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0) 1
(Aug-May) Enter water 0.01 0.001 304 3.0)
lnjured 0.0001 0.02 304 6.1 6.1 6.1 6.1 6.1 6.1 6.1 6.1 6.1 6.1	1
Incidental effects due to researcher presence among animals	
On rookeries during breeding season 1. Incidental disturbance for pups 2667 Alert 1 0.0 2 0.0) 2
(ground counts, scats, captures) scat collection, monitoring, Enter water 0.01 0.00 2 0.1 0.1 0.1 0.1 0.1 0.1 0.1	L
cameras, aerial surveys, etc. Injured 0.001 0.05 2 0.3 <	\$
Roundups for branding 0 Observed mortality during activity 1 0.001 0.0	
On rookeries during breeding season 1. Incidental disturbance for non-pups 3733 Alert 1 0.0 2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0) 2
(ground counts, scats, captures) scat collection, monitoring, Enter water 0.9 0.0001 2 6.7 6.7 6.7 6.7 6.7 6.7 6.7 6.7	•
cameras, aerial surveys, etc. Injured 0.0001 0.02 2 0.1 0.1 0.1 0.1 0.1 0.1	1
Haulouts, rookeries non-breeding 1. Incidental disturbance for pups 0 Alert 1 0.0 0.0	
(scats, resights, captures) scat collection, monitoring, Enter water 0.9 0.0001 0.0	
cameras, aerial surveys, etc. Injured 0.0001 0.02 0.0	
non-pups 40000 Alert 1 0.0 10 0.0 <) 2
Enter water 0.9 0.0001 10 36.0 36.0 36.0 36.0 36.0 36.0 36.0 36.)
Injured 0.0001 0.02 10 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.	\$
On rookeries during breeding season 2. Harrasment from collection pups 2667 Alert 1 0.0 2 0.0) 3
(ground counts, scats, captures) of carcasses. 0.01 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0	1
Injured 0.001 0.05 2 0.3 0.	\$
Roundups for branding 0 Observed mortality during activity 1 0.007 0.0	
On rookeries during breeding season 2. Harrasment from collection non-pups 37333 Alert 1 0.0 2 0.0 <td>) 3</td>) 3
(ground counts, scats, captures) of carcasses. Enter water 0.9 0.0001 2 6.7 6.7 6.7 6.7 6.7 6.7 6.7 6.7 6.7 6.7	7
Injured 0.0001 0.02 2 0.1 0	I
Haulouts, rookeries non-breeding 2. Harrasment from collection pups 0 Alert 1 0.0 0.0	
(scats, resights, captures) of carcasses. Enter water 0.9 0.001 0.0 0.0	
Injured 0.0001 0.02 0.0	
non-pups 40000 Alert 1 0.0 10 0.0 <) 3
Enter water 0.9 0.0001 10 36.0 36.0 36.0 36.0 36.0 36.0 36.0 36.)
Injured 0.0001 0.02 10 0.8	3

		Proportion	Mortality		Predicted	Predi	cted mo	rtality b	/ permit	year				
EIS Activity	Application activity	class	exposed	Effect	affected	rate	Frequency	mortality	1	2	3	4	5	Notes
Capture/restraint effects			· ·											
Capture/physical restraint		pups	1	Unobserved/post-capture mortality	1	0.001		0.0						
		non-pups		Observed mortality during activity	1	0.002		0.0						
				Unobserved/post-capture mortality	1	0.0001		0.0						
Capture/chemical anesthesia	6. Capture/restraint/no brand	pups	48	Unobserved/post-capture mortality	1	0.001	1	0.0	0.0	0.0	0.0	0.0	0.0	4.5
(inhalable agent-isoflurane)	8. Capture/restraint/no brand	F-F-					-							.,,=
	with analgesic.												1	
Capture/chemical anesthesia		non-pups		Observed mortality during activity	1	0.034		0.0						[
(injectable)				Unobserved/post-capture mortality	1	0.011		0.0						
Capture/chemical sedation		non-pups		Observed mortality during activity	1	0		0.0						[
(injectable-eg valjum)				Unobserved/post-capture mortality	1	0.0001		0.0						
Lethal take or permanent removal		DUDS		Observed mortality during activity	1	1	1	0.0						
zotiai tato el politici entreneral		non-pups		Observed mortality during activity	1	1	1	0.0					I	1
		non papo	Procedure-	e beer rea montanty damig dourny	· ·			0.0				-		
Handling effects: estimated increase	d risk		animals											1
Permanent mark/hot branding		DUDS	0	Unobserved/post-capture mortality	1	0.002	1	0.0						4.5
r officient marter of officients		non-pups	Ĭ	Unobserved/post-capture mortality	1	0.0001	1	0.0						.,0
"Low risk" procedures	6 7 8 and 9 blood samples	nuns	672	Unobserved/post-capture mortality	1	0.0001	1	0.0	0.1	0.1	0.1	0.1	0.1	6
	of r, of and o blood campico	non-pups	0.12	Unobserved/post-capture mortality	1	0.0001	1	0.0	0.1	0	0.1	0	0.1	
"Med risk" procedures		nuns		I Inobserved/post-capture mortality	1	0.0002	1	0.0		<u> </u>		└───┤		
		pop-pups		I Inobserved/post-capture mortality	1	0.0002	1	0.0		<u> </u>		└───┤		
"Elevated risk" procedures				Linobserved/post-capture mortality	1	0.0002	1	0.0		<u> </u>		<u>├───</u> ┤	· · · · ·	
Elevated lisk procedures		non-nuns		Upobserved/post-capture mortality	1	0.001	1	0.0		<u> </u>		┝───┤	(
		non papo	Procedure-	chobserved/post daptare montainty		0.001	· ·	0.0		<u> </u>		<u> </u>		
Capture/transport/captivity effects			animals											1
Capture/transport/bolding/release		pop-pups		Observed mortality during activity	1	0	1	0.0			-			-
Capture, transport notaling, release				I Inobserved/post-capture mortality	1	0.0001	1	0.0		<u> </u>			(<u> </u>
Capture/chemical sedation		pop-pups		Observed mortality during activity	1	0.0001	1	0.0		<u> </u>		<u>├───</u> ┤	· · · · ·	
(injectable-eq valium)		non-pups		Lipobserved/post-capture mortality	1	0.0001	1	0.0		<u> </u>				
Bormanont mark/bot branding		202-2022		Observed mortality during activity	1	0.0001	1	0.0		<u> </u>		<u>⊢</u>		<u> </u>
r ermanent manyhot branding		non-pups		Lipobserved/post-capture mortality	1	0.0001	1	0.0		<u> </u>				
"Low risk" procedures		pop-pups		Observed mortality during activity	1	0.0001	1	0.0		<u> </u>		<u>⊢</u>		<u> </u>
Low hat procedures		non-paps		Upobserved/post-capture mortality	1	0.0001	1	0.0		<u> </u>		<u>├</u> ───		t
"Med risk" procedures		pop-pups		Observed mortality during activity	1	0.0001	1	0.0		<u> </u>		<u>⊢</u>		<u> </u>
med lisk procedures		non-paps		Upobserved/post-capture mortality	1	0 0002	1	0.0		<u> </u>		<u>├</u> ───		t
"Elevated risk" procedures		pop-pups		Observed mortality during activity	1	0.0002	1	0.0		<u> </u>		<u>⊢</u>		<u> </u>
Elevated har procedures		non-paps		Upobserved/post-capture mortality	1	0.001	1	0.0		<u> </u>		<u>├</u> ───		t
				enobserved/post-capture montainty		0.001		otal by year:	100.0	100.0	100.0	100.0	100.0	<u> </u>
Notes:								otal by year.	100.0	100.0	100.0	100.0	100.0	t
1 Behavioral/demographic observation	s conducted from blinds (ng. 23)	so there will be zero takes	However thes	e estimated assuming 61 days (lun- lu	II) of 365 days a	re during bre	ding season	and 40% on ro	okery ar			timate)		
2. Requested takes span soveral activit	ios classified as 'in-view' or 'amon	a' animale, so without addi	tional quidanco	all requested takes were lumped into	most conconvoti		euling season, a			5 pups (r		linate).		
Lowover, applicant asked for takes b	asod on potential number of anim	ale procent, rather than ac	tual number an	ticipated to be disturbed. The EIS and	lutical framowor	k did not add	ass this type of	f roquest for in	ocidontal	dicturba	0000			1
Thus, this estimate for potential morte	litica is only correct if all animals	als present, rather than ac		and arose everestimete	ilyiicai namewoi	k ulu not auu	ess this type o	requestioni		uistuibai	1005.			1
Thus, this estimate for potential mona	anties is only correct if all animals e	encountered were disturbed	u. This is a gro	iss, gross overestimate.	معميين مانط بممغ		una of required	for incidental	diatu uhau	L		└── ┘	·	
Thus, this estimate for potential marter	potential number of animals prese	ni, rauler trian actual numi		to be disturbed. The Ers analylical fra		audress tills i	spe or request	ior incluental	มอเนเมสก	665.		\vdash		
A Accuración della pupo from wostern DBC	for this apply sin	encounterea were aisturbe	u. Triisisa gro	iss, gross overesumate.						<u> </u>		├──		
4. Assumed all pups from western DPS	IUI UIIS drialysis.	a a marita								<u> </u>		├──		
5. Activity 7&9 for capture/restraint W/br	anding covered by ADFG/NMML p	vermits							'	<u> </u>		┝───┘		
вооа sampling only; external exams	(BP, respiration, pulse etc are no	risk activities per EIS).							1 '	I.	1	1 1	. '	, I

	Age Potentially Proportion Mortality Predicte							Predicted	cted Predicted mortality by permit year				year	
EIS Activity	Application activity	class	exposed	Effect	affected	rate	Frequency	mortality	1	2	3	4	5	Notes
Incidental effects due to researcher	presence among animals													
Haulouts, rookeries non-breeding	Task 1a incidental disturbance	pups	1200	Alert	1	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	1
(scats, resights, captures)				Enter water	0.9	0.0001	1	0.1	0.1	0.1	0.1	0.1	0.1	í
				Injured	0.0001	0.02	1	0.0	0.0	0.0	0.0	0.0	0.0	1
		non-pups	1800	Alert	1	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	1
				Enter water	0.9	0.0001	1	0.2	0.2	0.2	0.2	0.2	0.2	1
				Injured	0.0001	0.02	1	0.0	0.0	0.0	0.0	0.0	0.0	1
	Task 1b incidental disturbance	non-pups	2000	Alert	1	0.0	8	0.0	0.0	0.0	0.0	0.0	0.0	2
	for installation			Enter water	0.9	0.0001	8	1.4	1.4	1.4	1.4	1.4	1.4	1
				Injured	0.0001	0.02	8	0.0	0.0	0.0	0.0	0.0	0.0	1
	Task 1b incidental disturbance	non-pups	2800	Alert	1	0.0	2	0.0	0.0	0.0	0.0	0.0	0.0	2
	for 6-mo service			Enter water	0.9	0.0001	2	0.5	0.5	0.5	0.5	0.5	0.5	1
				Injured	0.0001	0.02	2	0.0	0.0	0.0	0.0	0.0	0.0	ı
Capture/restraint effects														
Capture/chemical anesthesia		pups	0	Unobserved/post-capture mortality	1	0.001		0.0						
(inhalable agent-isoflurane)		non-pups	140	Observed mortality during activity	1	0.004	1	0.6	0.6	0.6	0.6	0.6	0.6	3
				Unobserved/post-capture mortality	1	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	
Capture/chemical anesthesia		non-pups	0	Observed mortality during activity	1	0.034		0.0						1
(injectable)				Unobserved/post-capture mortality	1	0.011		0.0						
Capture/chemical sedation		non-pups	0	Observed mortality during activity	1	0		0.0						
(injectable-eg valium)				Unobserved/post-capture mortality	1	0.0001		0.0						1
Lethal take or permanent removal		pups	0	Observed mortality during activity	1	1	1	0.0						
		non-pups		Observed mortality during activity	1	1	1	0.0						ļ
			Procedure-											1
Capture/transport/captivity effects		1	animals		1									l
Capture/transport/holding/release		non-pups	140	Observed mortality during activity	1	0	1	0.0	0.0	0.0	0.0	0.0	0.0	3
				Unobserved/post-capture mortality	1	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	
Capture/chemical sedation		non-pups		Observed mortality during activity	1	0	1	0.0	0.0	0.0	0.0	0.0	0.0	3
(injectable-eg valium)				Unobserved/post-capture mortality	1	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	I
Permanent mark/hot branding		non-pups	140	Observed mortality during activity	1	0	1	0.0	┢──┼─					I
				Unobserved/post-capture mortality	1	0.0001	1	0.0						<u> </u>
"Low risk" procedures		non-pups	980	Observed mortality during activity	1	0	1	0.0	0.0	0.0	0.0	0.0	0.0	3
				Unobserved/post-capture mortality	1	0.0001	1	0.1	0.1	0.1	0.1	0.1	0.1	-
"Med risk" procedures		non-pups	140	Observed mortality during activity	1	0	1	0.0	0.0	0.0	0.0	0.0	0.0	3
			100	Unobserved/post-capture mortality	1	0.0002	1	0.0	0.0	0.0	0.0	0.0	0.0	-
"Elevated risk" procedures		non-pups	100	Observed mortality during activity	1	0	1	0.0	0.0	0.0	0.0	0.0	0.0	3
				Unobserved/post-capture mortality	1	0.001	1	0.1	0.1	0.1	0.1	0.1	0.1	I
								otal by year:	3.1	3.1	3.1	3.1	3.1	
Notes:		(100()							⊢−−−−					
1. Depends on captures by AUF-GINMML, used AUF-G ratio to estimate publication (40%)														
 Non-breeding season activities (page) 	e 21 & Table 2). Reflects a maximi	im, not likely actual, pr	edicted mortality be	cause installations will likely occur we	ell-away from an	imais, or whe	n no animals a	re present (Ho	rning).					
Kequested annual takes also reflect	maximum expected for permit dura	tion. Thus, annual tak	es snould decrease	e yeariy, not remain constant as show	n nere. Likely 2	J implants pe	r year (Horning	j), dut maximu	m authoriz	ed take	s per yea	ar were a	nalyzed	nere.

Bit Althy Application where a humber in where a humber is humber is humber in humber is humber in humber is humber in humber is humber in humber is humber is humber is humber in humber is humber is humber is humber in humber is humber in humber is humber is humber in humber is humber in humber is humber is humber in humber is humber is humber is humber in humber is humber in humber is humber is humber is humber in humber is humber			Age	Potentially		Proportion	Mortality		Predicted	Predict	ed mort	ality by	permit y	/ear		
distant discription in the second of	EIS Activity	Application activity	class	exposed	Effect	affected	rate	Frequency	mortality	1	2	3	4	5	Notes	
Artistary pipe Air 0.05 0.07 <td>Incidental effects due to researcher p</td> <td>resence in view of animals</td> <td></td>	Incidental effects due to researcher p	resence in view of animals														
Image: space	Aerial survey		pups		Alert	0.05	0.0		0.0							
Image: Section of the section of					Enter water	0	0.001		0.0							
IncreginIncreg					Injured	0.001	0.05		0.0							
Image: part of the state of			non-pups		Alert	0.05	0.0		0.0							
Sector April April Open April Open Open Open <					Enter water	0.01	0.0001		0.0							
Vestef survey pupe Airf o o					Injured	0.0001	0.02		0.0							
Image: book of the set of the se	Vessel surveys		pups		Alert	1	0.0		0.0							
Image: section Image:					Enter water	0	0.001		0.0							
Intro-page Alter 1 0.00					Injured	0.01	0.05		0.0							
Interfacts Enter water 0.1 0.001 0.0 0.0 0.0 0.0 0.001 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01			non-pups		Alert	1	0.0		0.0							
Image Image <th< td=""><td></td><td></td><td>(breeding season)</td><td></td><td>Enter water</td><td>0.1</td><td>0.0001</td><td></td><td>0.0</td><td></td><td></td><td></td><td></td><td></td><td></td></th<>			(breeding season)		Enter water	0.1	0.0001		0.0							
Image: biology of the second part of the second					Injured	0.0001	0.02		0.0							
Image: control of the water 0.3 0.001 0.0 1			non-pups		Alert	1	0.0		0.0							
Image Image Image Output Output Image Output Output Image Output Output Image Output Image			(non-breeding season)		Enter water	0.3	0.0001		0.0							
On land pups Alert 0.05 0.00					Injured	0.0001	0.02		0.0							
Image: marker Image: m	On land		pups		Alert	0.05	0.0		0.0							
Induced Induced 0.001 0.05 0.05 0.0 0 <td></td> <td></td> <td></td> <td></td> <td>Enter water</td> <td>0</td> <td>0.001</td> <td></td> <td>0.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>					Enter water	0	0.001		0.0							
non-pugs Alert 0.05 0.0 <th< td=""><td></td><td></td><td></td><td></td><td>Injured</td><td>0.001</td><td>0.05</td><td></td><td>0.0</td><td></td><td></td><td></td><td></td><td></td><td></td></th<>					Injured	0.001	0.05		0.0							
Indextant effects Ender water 0.01 0.02 0.0<			non-pups		Alert	0.05	0.0		0.0							
Incidental affacts due to researcher presence among animals incidental affacts du					Enter water	0.01	0.0001		0.0							
Include all effects due to researcher presence among animals <th c<="" td=""><td></td><td></td><td></td><td></td><td>Injured</td><td>0.0001</td><td>0.02</td><td></td><td>0.0</td><td></td><td></td><td></td><td></td><td></td><td></td></th>	<td></td> <td></td> <td></td> <td></td> <td>Injured</td> <td>0.0001</td> <td>0.02</td> <td></td> <td>0.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>					Injured	0.0001	0.02		0.0						
On rockeries during breeding season Task 1 inc. disturbance for pups 1000 Alert 1 0.0 1 0.0 <t< td=""><td>Incidental effects due to researcher p</td><td>resence among animals</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	Incidental effects due to researcher p	resence among animals														
(ground counts, scats, captures) captures etc (methy water 0.01 0.001 1 0.00 0	On rookeries during breeding season	Task 1 inc. disturbance for	pups	1000	Alert	1	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	1	
Roundups for branding non-pups 2000 Observed motality during activity 1 0.001 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.00	(ground counts, scats, captures)	captures etc			Enter water	0.01	0.001	1	0.0	0.0	0.0	0.0	0.0	0.0		
Advantage for branding Task 1 inc. disturbance for informative scales, scales, scalures appression Task 1 inc. disturbance for pups Non-pups 2000 Alvet Enter water 0.0 1 0.0					Injured	0.001	0.05	1	0.1	0.1	0.1	0.1	0.1	0.1		
On rocketes during breeding season Task 1 inc. disturbance for provide outs, scaptures) Captures etc Enter water 0.9 0.0001 1 0.0	Roundups for branding			240	Observed mortality during activity	1	0.001	1	0.2	0.2	0.2	0.2	0.2	0.2		
(ground counts, scals, captures) captures etc Enter water 0.9 0.0001 1 0.2 0.	On rookeries during breeding season	Task 1 inc. disturbance for	non-pups	2000	Alert	1	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	1	
Halubuls, rookeries non-breeding pups Alfert 1 0.00 1 0.00 <	(ground counts, scats, captures)	captures etc			Enter water	0.9	0.0001	1	0.2	0.2	0.2	0.2	0.2	0.2		
Haluous, nookenes non-breeding pups Aleft 1 0.0 0.0					Injured	0.0001	0.02	1	0.0	0.0	0.0	0.0	0.0	0.0		
(scate, resignes, captures) Enter water 0.9 0.0001 1 0.0 Important I	Haulouts, rookeries non-breeding		pups		Alert	1	0.0	1	0.0							
Task 1 inc. disturbance for captures etc. non-pups D/DOD Alert 1 0.00 1 0.00 0.0	(scats, resignts, captures)				Enter water	0.9	0.0001	1	0.0							
Task 1 inc. alsurbance for non-pups 7000 Jeff 1 0.0 1 0.0		Test 4 is a disturbance for		7000	Injured	0.0001	0.02	1	0.0	0.0		0.0			4	
Capture's etc Enter Water 0.9 0.001 1 0.6		Task 1 Inc. disturbance for	non-pups	7000		1	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	1	
Injurea Output Injurea Injurea <thinjurea< th=""> <thinjurea< th=""> <thinjurea< <="" td=""><td></td><td>captures etc</td><td></td><td></td><td>Enter water</td><td>0.9</td><td>0.0001</td><td>1</td><td>0.6</td><td>0.6</td><td>0.6</td><td>0.6</td><td>0.6</td><td>0.6</td><td></td></thinjurea<></thinjurea<></thinjurea<>		captures etc			Enter water	0.9	0.0001	1	0.6	0.6	0.6	0.6	0.6	0.6		
Lask 2 incidental distribution for for Non-pups 4000 / Nett 1 0.0 1 0.0		Taali O is side stat disturbuses for		1000		0.0001	0.02	1	0.0	0.0	0.0	0.0	0.0	0.0	4	
Capture/setic Enter water 0.3 0.0001 1 0.4		Task 2 Incidental disturbance for	non-pups	4000		1	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	I	
Capture/restraint effects Outon Ou		captures etc			Enter water	0.9	0.0001	1	0.4	0.4	0.4	0.4	0.4	0.4		
Capture/physical restraint pups 0 Unobserved/post-capture mortality 1 0.001 0.0 Image: Capture/physical restraint Capture/physical restraint non-pups 0 Observed mortality during activity 1 0.001 0.0 Image: Capture/physical restraint Image: Capture/physical restraint Image: Capture/physical restraint 0.001 1 0.00 Image: Capture/physical restraint Image: Capture/physicapture/physical restraint Image: Captu	Conturo/restraint offests				Injured	0.0001	0.02		0.0	0.0	0.0	0.0	0.0	0.0		
Capture physical resultint Conserved post-capture mortality during activity Conserved post-capture mortality Conserved pos			nuna	0	Lipphony od/post conture mortality	1	0.001		0.0				<u> </u>	_		
Image: Construct of the construction of the	Capture/physical restraint		pups pop-pups	0	Observed mortality during activity	1	0.001		0.0					+		
Capture/chemical anesthesia Task 1 pups 200 Unobserved/post-capture mortality 1 0.0001 1 0.02 0.2 0.2 0.2 0.2 (inhalable agent-isoflurane) Task 1, 2mo-tyr + 1-4 yr olds non-pups 80 Observed/post-capture mortality 1 0.001 5 0.2			non-pups	0	Upobsorved monality during activity	1	0.002		0.0							
Capture (nhalable agent-isoffurane) Task 1, Ad F (40x3; Jun-Jul) non-pups 200 Construction of the model of th	Capture/chemical anesthesia	Task1	nuns	200	Unobserved/post-capture mortality	1	0.0001	1	0.0	0.2	0.2	0.2	0.2	0.2		
Task 1, 2mo-1yr + 1-4 yr olds non-pups 80 Observed mortality during activity 1 0.001 3 0.2 <th0.2< th=""> 0.2 <th0.2< th=""> <th0.< td=""><td>(inhalable agent-isoflurane)</td><td>TASKI</td><td>pups</td><td>200</td><td>Upobserved/post-capture mortality</td><td>1</td><td>0.001</td><td>5</td><td>0.2</td><td>0.2</td><td>0.2</td><td>0.2</td><td>0.2</td><td>0.2</td><td></td></th0.<></th0.2<></th0.2<>	(inhalable agent-isoflurane)	TASKI	pups	200	Upobserved/post-capture mortality	1	0.001	5	0.2	0.2	0.2	0.2	0.2	0.2		
Task 1, 211-19, 4 14 yr olds Indripups 60 Observed montality during activity 1 0.004 3 1.0	(initialable agent-isolititalie)	Task 1. $2ma-1/r + 1-4/r$ olds	202-20125	40	Observed mortality during activity	1	0.001	3	1.0	1.0	1.0	1.0	1.0	1.0	2	
Task 2, 6-11 mo & 1-4 yr olds non-pups 150 Observed mortality during activity 1 0.001 3 0.0			non-pups	00	Upobsorved montality during activity	1	0.004	3	1.0	0.0	0.0	0.0	0.0	0.0	2	
I task 2, 0 + 110 k + 9, 0 k 3 Intriputes 1 to 0 beside infinitive during activity 1 0.004 1 0.00 0.0 <td></td> <td>Task 2, 6-11 mo & 1-4 yr olds</td> <td>non-nuns</td> <td>150</td> <td>Observed mortality during activity</td> <td>1</td> <td>0.0001</td> <td>1</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>2</td>		Task 2, 6-11 mo & 1-4 yr olds	non-nuns	150	Observed mortality during activity	1	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	2	
Task 1, Ad F (60 Aug-May) non-pups 60 Observed post-capture mortality 1 0.004 1 0.2 <td></td> <td></td> <td>non-pupa</td> <td>150</td> <td>Upobserved/post-capture mortality</td> <td>1</td> <td>0.004</td> <td>1</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>2</td>			non-pupa	150	Upobserved/post-capture mortality	1	0.004	1	0.0	0.0	0.0	0.0	0.0	0.0	2	
Task 1, Ad F (40 Ag May) Intriputs Colored Maining adding adding Colored Maining adding		Task 1 Ad E (60 Aug-May)	non-nuns	60	Observed mortality during activity	1	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	3	
Task 1, Ad F (40*3 Aug-May, Jun-Jul) non-pups 80 Observed mortality during activity 1 0.004 3 1.0 0.0		Task I, Au I (00 Aug-Way)	non-pupa	00	Upobserved/post-capture mortality	1	0.004	1	0.2	0.2	0.2	0.2	0.2	0.2	5	
Interpretendent of the original problem of the original		Task 1 Ad F (40*3 Aug-May Jup-Jul)	non-nuns	80	Observed mortality during activity	1	0.0001	3	1.0	1.0	1.0	1.0	1.0	1.0	3	
Capture/chemical anesthesia Task 1, Ad F (40x3; Jun-Jul) non-pups 40 Observed mortality during activity 1 0.034 3 4.1		Task 1, Ad 1 (40 5 Aug-May, 501-501)	non pupo	00	Unobserved/post-centure mortality	1	0.004	3	0.0	0.0	0.0	0.0	0.0	0.0	5	
Company synthetic and strong at the synthetic at the	Canture/chemical anesthesia	Task 1 Ad F (40x3: Jun-Jul.)	non-nuns	40	Observed mortality during activity	1	0.0001	<u> </u>	0.0 / 1	<u>0.0</u>	4 1	4.1	4 1	4.1	3	
Lethal take or permanent removal pups 0 Observed mortality during activity 1 1 1.0 1.0 1.0	(injectable)			-+0	Unobserved/post-capture mortality	1	0.034	3	1 3	1 3	1 3	1 3	1 3	1 3	~	
Louis and or portraining damage and the state of the stat	Lethal take or permanent removal		nuns	0	Observed mortality during activity	1	0.011	3	1.3	1.5	1.5	1.5	1.0	1.5		
Inon-pups Upserved mortality during activity 1 1 1 1 0.01	Lothar take of permanent removal		non-pups	0	Observed mortality during activity	1	1	1	0.0							

	Age Potentially							Predicted	Predic	ted mor	tality by	permit y	ear	
EIS Activity	Application activity	class	exposed	Effect	affected	rate	Frequency	mortality	1	2	3	4	5	Notes
			Procedure-											
Handling effects: estimated increased	1 risk		animals											
Permanent mark/hot branding	Task 1, <2mo olds	pups	240	Unobserved/post-capture mortality	1	0.002	1	0.5	0.5	0.5	0.5	0.5	0.5	
	Task 1, 2mo-1yr + 1-4 yr olds, adults	non-pups	220	Unobserved/post-capture mortality	1	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	
	Task 2 (Table 2)		120	Unobserved/post-capture mortality	1	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	
"Low risk" procedures	Task 1	pups	2240	Unobserved/post-capture mortality	1	0.0001	1	0.2	0.2	0.2	0.2	0.2	0.2	
	Task 1, 2mo-1yr + 1-4 yr olds, adults	non-pups	5940	Unobserved/post-capture mortality	1	0.0001	1	0.6	0.6	0.6	0.6	0.6	0.6	4
"Med risk" procedures	Task 1	pups	200	Unobserved/post-capture mortality	1	0.0002	1	0.0	0.0	0.0	0.0	0.0	0.0	
	Task 1, 2mo-1yr + 1-4 yr olds, adults	non-pups	1320	Unobserved/post-capture mortality	1	0.0002	1	0.3	0.3	0.3	0.3	0.3	0.3	
"Elevated risk" procedures		pups		Unobserved/post-capture mortality	1	0.001	1	0.0						
		non-pups		Unobserved/post-capture mortality	1	0.001	1	0.0						
			Procedure-											
Capture/transport/captivity effects animals														
Capture/transport/holding/release	Task 2 (Table 3)	non-pups	30	Observed mortality during activity	1	0	12	0.0	0.0	0.0	0.0	0.0	0.0	
				Unobserved/post-capture mortality	1	0.0001	12	0.0	0.0	0.0	0.0	0.0	0.0	
Capture/chemical sedation		non-pups		Observed mortality during activity	1	0	1	0.0						
(injectable-eg valium)				Unobserved/post-capture mortality	1	0.0001	1	0.0						
Permanent mark/hot branding	Task 2 (Table 3)	non-pups	30	Observed mortality during activity	1	0	1	0.0	0.0	0.0	0.0	0.0	0.0	
				Unobserved/post-capture mortality	1	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	
"Low risk" procedures	Task 2 (Table 3)	non-pups	1680	Observed mortality during activity	1	0	1	0.0	0.0	0.0	0.0	0.0	0.0	5
				Unobserved/post-capture mortality	1	0.0001	1	0.2	0.2	0.2	0.2	0.2	0.2	
"Med risk" procedures	Task 2 (Table 3)	non-pups	120	Observed mortality during activity	1	0	1	0.0	0.0	0.0	0.0	0.0	0.0	
				Unobserved/post-capture mortality	1	0.0002	1	0.0	0.0	0.0	0.0	0.0	0.0	
"Elevated risk" procedures		non-pups	30	Observed mortality during activity	1	0	1	0.0	0.0	0.0	0.0	0.0	0.0	
				Unobserved/post-capture mortality	1	0.001	1	0.0	0.0	0.0	0.0	0.0	0.0	
Notes:							1	Total by year:	12.0	12.0	12.0	12.0	12.0	
1. Distribution of request for 10,000 takes incidental to captures, scat collection, etc. 10,000 are the total expected takes inclusive of repeated takes/individual (Russ Andrews, ASLC) for Task 1.														
The additional 4000 for task 2 (3,500	in PWS/Res Bay up to 15 each, 500 in Ke	odiak/Aleutians up to 5 tir	nes each) also re	epresent total expected takes inclusiv	e of repeated ta	kes/individua	(Jo-Ann Melisl	h, ASLC).						
Request for any additional "unlimited"	disturbances for collection of expelled pla	acentas, aborted fetuses,	and dead sea lic	ons is not included in this analysis.										
2. Assumed that captures of 2 mo - 4 yr	olds is by net, uw noose, seine, or floatin	g pen.(yes, for Task 2: M	ellish-ASLC)											
3. Only intend to dart adult females (40x	3) captured in Jun-Jul (application pg 25;	Russ Andrews, ASLC); a	assume all receiv	e inhalable anesthesia.										
4. Attachment of buoyancy-altreing block	ks on non-pups was requested as instrum	nent attachment, so are c	ounted in this row	w, but not differently than any other in	strument attach	ment.								
5. Metabolic chamber measurements as	sessed as "low risk". Temporary dry holo	re uncategorized.												

NMML's west SSL predicted mortality calculations.xIsADFG 358.1888

	Age Potentially Proportion Mortality						Predicted		Predicted m	ortality by	permit yea	r		
EIS Activity	Effect	affected	rate	Frequency	mortality	1	2	3	4	5	Notes			
Incidental effects due to researcher pr	esence in view of animals													
Aerial survey		pups	0	Alert	0.05	0.0		0.0						
				Enter water	0	0.001		0.0					-	
				Injured	0.001	0.05		0.0					-	
		non-pups	0	Alert	0.05	0.0		0.0						
				Enter water	0.01	0.0001		0.0						
				Injured	0.0001	0.02		0.0						
Vessel surveys		pups	2000	Alert	1	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	1
				Enter water	0	0.001	1	0.0	0.0	0.0	0.0	0.0	0.0	2
				Injured	0.01	0.05	1	1.0	1.0	1.0	1.0	1.0	1.0	
		non-pups	3000	Alert	1	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	3
		(breeding season)		Enter water	0.1	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	
				Injured	0.0001	0.02	1	0.0	0.0	0.0	0.0	0.0	0.0	
		non-pups	0	Alert	1	0.0		0.0						
		(non-breeding season)		Enter water	0.3	0.0001		0.0						
				Injured	0.0001	0.02		0.0						
On land		pups	0	Alert	0.05	0.0		0.0						4
				Enter water	0	0.001		0.0						
				Injured	0.001	0.05		0.0						
		non-pups	0	Alert	0.05	0.0		0.0						
				Enter water	0.01	0.0001		0.0						
				Injured	0.0001	0.02		0.0						
Incidental effects due to researcher pr	esence among animals		-											
On rookeries during breeding season		pups		Alert	1	0.0		0.0						
(ground counts, scats, captures)				Enter water	0.01	0.001		0.0						
				Injured	0.001	0.05		0.0						
Roundups for branding				Observed mortality during activity	1	0.001		0.0						
On rookeries during breeding season		non-pups		Alert	1	0.0		0.0						
(ground counts, scats, captures)				Enter water	0.9	0.0001		0.0						
				Injured	0.0001	0.02		0.0						
Haulouts, rookeries non-breeding		pups	400	Alert	1	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	
(scats, resights, captures)				Enter water	0.9	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	
				Injured	0.0001	0.02	1	0.0	0.0	0.0	0.0	0.0	0.0	
		non-pups	1600	Alert	1	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	
				Enter water	0.9	0.0001	1	0.1	0.1	0.1	0.1	0.1	0.1	
				Injured	0.0001	0.02	1	0.0	0.0	0.0	0.0	0.0	0.0	
Capture/restraint effects					n	1	1				-			
Capture/physical restraint		pups		Unobserved/post-capture mortality	1	0.001		0.0						
		non-pups		Observed mortality during activity	1	0.002		0.0						
				Unobserved/post-capture mortality	1	0.0001		0.0						
Capture/chemical anesthesia		pups		Unobserved/post-capture mortality	1	0.001		0.0						L
(inhalable agent-isoflurane)		non-pups (2mo-3yr)	165	Observed mortality during activity	1	0.004	1	0.7	0.7	0.7	0.7	0.7	0.7	5
				Unobserved/post-capture mortality	1	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	
Capture/chemical anesthesia		non-pups	5	Observed mortality during activity	1	0.034	1	0.2	0.2	0.2	0.2	0.2	0.2	
(injectable)				Unobserved/post-capture mortality	1	0.011	1	0.1	0.1	0.1	0.1	0.1	0.1	
Capture/chemical sedation		non-pups	5	Observed mortality during activity	1	0	1	0.0	0.0	0.0	0.0	0.0	0.0	
(injectable-eg valium)				Unobserved/post-capture mortality	1	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	L
Lethal take or permanent removal		pups		Observed mortality during activity	1	1	1	0.0						l
		non-pups		Observed mortality during activity	1	1	1	0.0						
			Procedure-											
Handling effects: estimated increased	risk		animals				1 .					r		
Permanent mark/hot branding		pups		Unobserved/post-capture mortality	1	0.002	1	0.0						L
		non-pups	165	Unobserved/post-capture mortality	1	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	L
"Low risk" procedures		pups		Unobserved/post-capture mortality	1	0.0001	1	0.0						L
		non-pups	1885	Unobserved/post-capture mortality	1	0.0001	1	0.2	0.2	0.2	0.2	0.2	0.2	───
"Med risk" procedures		pups	0	Unobserved/post-capture mortality	1	0.0002	1	0.0	0.0	0.0	0.0	0.0	0.0	L
		non-pups	375	Unobserved/post-capture mortality	1	0.0002	1	0.1						───
"Elevated risk" procedures		pups		Unobserved/post-capture mortality	1	0.001	1	0.0						L
		non-pups		Unobserved/post-capture mortality	1	0.001	1	0.0				ļ		L
								Total by year:	2.3	2.3	2.3	2.3	2.3	L
Notes:														<u> </u>
 Assumes pups comprise 40% of the to 	tal rookery population (Rea-ADF	FG)												L
2. Distribution of resight effort will change	e year to year - assumed all in bi	reeding season for this exerc	cise given that is	when most impact is calculated (typic	cally will have 20	0-30% of the	esight effort d	uring non-breed	ling season)	(Rea-ADFO	G)			
Assumes non-pups comprise 60% of the	he total rookery population (Rea	-ADFG)												
4. Total request for Activity 3 WDPS (Rea	a-ADFG)													
5. Potentially exposed is the total number	r of captures, inclusive of any re-													

		Age Potentially				Proportion	Mortality		Predicted	P	redicted mo	rtality by p	ermit year		
EIS Activity	Application activity	class	exposed		Effect	affected	rate	Frequency	mortality	1	2	3	4	5	Notes
Incidental effects due to researcher	presence in view of animals														
Aerial survey	Quarterly aerial survey	pups	3664	Alert		0.05	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	1
				Enter water		0	0.001	1	0.0	0.0	0.0	0.0	0.0	0.0	
				Injured		0.001	0.05	1	0.2	0.2	0.2	0.2	0.2	0.2	
		non-pups	9336	Alert		0.05	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	1
				Enter water		0.01	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	
				Injured		0.0001	0.02	1	0.0	0.0	0.0	0.0	0.0	0.0	
		non-pups	13000	Alert		0.05	0.0	3	0.0	0.0	0.0	0.0	0.0	0.0	2
				Enter water		0.01	0.0001	3	0.0	0.0	0.0	0.0	0.0	0.0	
				Injured		0.0001	0.02	3	0.1	0.1	0.1	0.1	0.1	0.1	
	Biennial replicate aerial	pups	3664	Alert		0.05	0.0	7	0.0		0.0		0.0		3
	surveys			Enter water		0	0.001	7	0.0		0.0		0.0		
				Injured		0.001	0.05	7	1.3		1.3		1.3		
		non-pups	9336	Alert		0.05	0.0	7	0.0		0.0		0.0		4
				Enter water		0.01	0.0001	7	0.1		0.1		0.1		
				Injured		0.0001	0.02	7	0.1		0.1		0.1		
Vessel surveys	Boat-based quarterly	non-pups	1000	Alert		1	0.0	4	0.0	0.0	0.0	0.0	0.0	0.0	5
	brand resighting	(non-breeding season)		Enter water		0.3	0.0001	4	0.1	0.1	0.1	0.1	0.1	0.1	
				Injured		0.0001	0.02	4	0.0	0.0	0.0	0.0	0.0	0.0	
On land	Land-based biweekly	non-pups	500	Alert		0.05	0.0	20	0.0	0.0	0.0	0.0	0.0	0.0	6
	brand resighting			Enter water		0.01	0.0001	20	0.0	0.0	0.0	0.0	0.0	0.0	
				Injured		0.0001	0.02	20	0.0	0.0	0.0	0.0	0.0	0.0	
Incidental effects due to researcher	presence among animals		-	-		r									
Haulouts, rookeries non-breeding		non-pups	2000	Alert		1	0.0	4	0.0	0.0	0.0	0.0	0.0	0.0	5
(scats, resights, captures)				Enter water		0.9	0.0001	4	0.7	0.7	0.7	0.7	0.7	0.7	
				Injured		0.0001	0.02	4	0.0	0.0	0.0	0.0	0.0	0.0	
									fotal by year:	1.2	2.7	1.2	2.7	1.2	
Notes:															
 June survey; estimated as pup count 	from 2005 NMML survey for C/M	/GOA													
2. Sep/Dec/Mar surveys															
Estimated as pup count from 2005 N	MML survey for C/WGOA														
4. Ditterence of 13000 and estimated p	up count from 2005 NMML survey	ý													
5.Application take table states no rooke	Application take table states no rookery visits during breeding season.														
During midSep-midMay, thus no pup	-take category by EIS definition														

Bit Actions (Partial Lange and a stand all and all and all all all all all all all all all al			Age	Potentially		Proportion	Mortality		Predicted	Predi	cted mort	ality by	permit y	ear	
minima in protect an orbit of any protect pandom prot	EIS Activity	Application activity	class	exposed	Effect	affected	rate	Frequency	mortality	1	2	3	4	5	Notes
Areal survy I. Areal survy: (needing seam) pupe 12000 /act 0.00 <	Incidental effects due to researcher p	resence in view of animals		-											
Image: sector of the	Aerial survey	1. Aerial survey: breeding season	pups	13000	Alert	0.05	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	1, 2
Image: constraint of the second sec					Enter water	0	0.001	1	0.0	0.0	0.0	0.0	0.0	0.0	
Image: Constraint of the basis of					Injured	0.001	0.05	1	0.7	0.7	0.7	0.7	0.7	0.7	
Image: Constraint of the start startery, non-starter startery of the st			non-pups	32000	Alert	0.05	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	3
Attriat survey: non-breacing season open part 20000 Mint 0.000 0.00					Enter water	0.01	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	
Constraint Constraint <thconstraint< th=""> Constraint Constrai</thconstraint<>		2 Aerial survey: non-breeding season	non-nuns	28000	Alert	0.0001	0.02	1	0.1	0.1	0.1	0.1	0.1	0.1	1 4
set prode prode 0.000 0.02 1 0.		2. Hendi barvey. Hen breeding beabon	non pupo	20000	Enter water	0.01	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	1, 4
Vessel surveys 1. Incidential dissurbance pupe 1000 Mer 0.01 1 0.01 <td></td> <td></td> <td></td> <td></td> <td>Injured</td> <td>0.0001</td> <td>0.02</td> <td>1</td> <td>0.1</td> <td>0.1</td> <td>0.1</td> <td>0.1</td> <td>0.1</td> <td>0.1</td> <td>-</td>					Injured	0.0001	0.02	1	0.1	0.1	0.1	0.1	0.1	0.1	-
Enter valar Enter valar 0 0.001 1 0.00	Vessel surveys	Incidental disturbance	pups	1000	Alert	1	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	5
Image: Section of the sectin of the section of the section					Enter water	0	0.001	1	0.0	0.0	0.0	0.0	0.0	0.0	
Image: second					Injured	0.01	0.05	1	0.5	0.5	0.5	0.5	0.5	0.5	
Intervalue Enter value 0.1 0.01 1 0.1			non-pups	5000	Alert	1	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	5
Image: constraint of constraint in the second sec			(breeding season)		Enter water	0.1	0.0001	1	0.1	0.1	0.1	0.1	0.1	0.1	
Increduces Increduces Soud Arr 1 0.0 1 0.0					Injured	0.0001	0.02	1	0.0	0.0	0.0	0.0	0.0	0.0	
Contracting season) Enter water 0.001 1 0.0<			non-pups	5000	Alert	1	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	5
Chi and pups Different stars Different stars <thdifferent stars<="" th=""> <thdifferent stars<="" th=""> <t< td=""><td></td><td></td><td>(non-breeding season)</td><td></td><td>Enter water</td><td>0.3</td><td>0.0001</td><td>1</td><td>0.2</td><td>0.2</td><td>0.2</td><td>0.2</td><td>0.2</td><td>0.2</td><td></td></t<></thdifferent></thdifferent>			(non-breeding season)		Enter water	0.3	0.0001	1	0.2	0.2	0.2	0.2	0.2	0.2	
On land pups Intervation 0.0 0.0 0.0 0.0 0.0 0 <th< td=""><td></td><td></td><td></td><td></td><td>Injured</td><td>0.0001</td><td>0.02</td><td>1</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td><td></td></th<>					Injured	0.0001	0.02	1	0.0	0.0	0.0	0.0	0.0	0.0	
Image: control in the second	On land		pups	0	Alert	0.05	0.0		0.0						
Index Index <th< td=""><td></td><td></td><td></td><td></td><td>Enter water</td><td>0 001</td><td>0.001</td><td></td><td>0.0</td><td></td><td></td><td></td><td></td><td></td><td>-</td></th<>					Enter water	0 001	0.001		0.0						-
Incluence Incluence <t< td=""><td></td><td></td><td>non-pups</td><td>0</td><td>Alort</td><td>0.001</td><td>0.05</td><td></td><td>0.0</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>			non-pups	0	Alort	0.001	0.05		0.0						
Incidental affects due to researce arrong animals Injured 0.002 0.02 0.0 Injured 0.001 0.02 0.0 Injured 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.01			поп-рирз	0	Enter water	0.03	0.0		0.0						
Incidental effects dus to researcher presence among animals Implement (provide) Outsit					Injured	0.01	0.0001		0.0						
On codering during breeding season (ground counts, scats, captures) 3. Ground counts pups The Net mater 0.01 0.0	Incidental effects due to researcher p	resence among animals			injured	0.0001	0.02		0.0			_			
(ground counts, scals, captures) Image: Count out is and in the scale is capture in the scale in the scale is	On rookeries during breeding season	3. Ground counts	pups	7100	Alert	1	0.0	1	0.0		0.0	0.0	0.0		6
Rundug for branding Injured 0.001 0.05 1 0.4 0.6 <td>(ground counts, scats, captures)</td> <td></td> <td>1.1.2</td> <td></td> <td>Enter water</td> <td>0.01</td> <td>0.001</td> <td>1</td> <td>0.1</td> <td></td> <td>0.1</td> <td>0.1</td> <td>0.1</td> <td>-</td> <td></td>	(ground counts, scats, captures)		1.1.2		Enter water	0.01	0.001	1	0.1		0.1	0.1	0.1	-	
Redundations for handing cmode for handing 1 0.01 1 0.4 0.6 0.0					Injured	0.001	0.05	1	0.4		0.4	0.4	0.4		
On cokeries during breading season 3. Ground counts non-pups 18000 Alert 1 0.0 1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.00 0.0	Roundups for branding			400	Observed mortality during activity	1	0.001	1	0.4	0.4	0.4	0.4	0.4	0.4	
(ground counts, scats, captures)	On rookeries during breeding season	3. Ground counts	non-pups	18000	Alert	1	0.0	1	0.0		0.0	0.0	0.0		6
Impact Impact 0.0001 0.02 1 0.0 0.0 0.0 0.0 0.0 0.0 (ground counts pups 9000 Alert 1 0.0 1 0.1 0.0 0.0 0.0 1 (ground counts, scats, captures) Impact 0.01 0.001 1 0.1 0.1 0.0 <td< td=""><td>(ground counts, scats, captures)</td><td></td><td></td><td></td><td>Enter water</td><td>0.9</td><td>0.0001</td><td>1</td><td>1.6</td><td></td><td>1.6</td><td>1.6</td><td>1.6</td><td></td><td></td></td<>	(ground counts, scats, captures)				Enter water	0.9	0.0001	1	1.6		1.6	1.6	1.6		
On noderies during breeding season 3. Ground counts pups 9000 Alert 1 0.0 1 0.0 0.0 0.0 0.0 7 0.0 7 (ground counts, scats, captures) Impart and the water 0.001 0.001 1 0.0 1 0.0					Injured	0.0001	0.02	1	0.0		0.0	0.0	0.0		
(ground counts, scats, captures) Enter water 0.01 0.01 1 0.1 0.1 Innon-pups 2100 Alert 1 0.0 1 0.5 0.5 0.5 Innon-pups 2100 Alert 1 0.0 1 0.0<	On rookeries during breeding season	3. Ground counts	pups	9000	Alert	1	0.0	1	0.0	0.0				0.0	7
Implified United Unit	(ground counts, scats, captures)				Enter water	0.01	0.001	1	0.1	0.1				0.1	
Inch-pups 21000 Alert 1 0.0 1 0.0 0.0 0.00 1 0.0 0.0 0.00 1 0.0 0.0 0.00 1 0.0 0.0 1.0 0.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0 1.0 0.0					Injured	0.001	0.05	1	0.5	0.5				0.5	
Image: Constraint of the state in			non-pups	21000	Alert	1	0.0	1	0.0	0.0				0.0	/
Hallouts, rookeries non-breeding 4. Incidental disturbance pups Alert 1 0.0 0.0 <					Enter water	0.9	0.0001	1	1.9	1.9				1.9	-
Handbase, lookenies individendarius Public I 0.00 0.0 I I 0.00 0.0	Haulouts, rookarias pap-brooding	1 Incidental disturbance	nunc		Alort	0.0001	0.02	1	0.0	0.0				0.0	
Liner Match D.3 O.001 O.0 O.0 O O Injured 0.001 0.00 0.0	(scate residute cantures)	4. Incidental disturbance	pups		Enter water	0.9	0.0		0.0						
Interpretation Interpr	(boate, resigne, captares)				Injured	0.0001	0.0001		0.0						-
Image: Constraint Image: Constraint Enter water 0.9 0.001 1 0.6			non-pups	7000	Alert	1	0.0	1	0.0	0.0	0.0	0.0	0.0	0.0	5
Capture/restraint 6. Capture, restraint, measurements pups 700 Unobserved/post-capture mortality 1 0.001 1 0.7 0.7 0.7 0.7 Capture/restraint 6. Capture, restraint, measurements pups 0 0.0					Enter water	0.9	0.0001	1	0.6	0.6	0.6	0.6	0.6	0.6	
Capture/restraint effects C. Capture, restraint, measurements pups 700 Unobserved/post-capture mortality 1 0.001 1 0.7					Injured	0.0001	0.02	1	0.0	0.0	0.0	0.0	0.0	0.0	
Capture/physical restraint 6. Capture, restraint, measurements pups 700 Unobserved/post-capture mortality 1 0.001 1 0.7 <td>Capture/restraint effects</td> <td></td> <td></td> <td></td> <td>• •</td> <td></td>	Capture/restraint effects				• •										
Index non-pups 0 Observed mortality during activity 1 0.002 1 0.0	Capture/physical restraint	6. Capture, restraint, measurements	pups	700	Unobserved/post-capture mortality	1	0.001	1	0.7	0.7	0.7	0.7	0.7	0.7	
Image: constraint for the state of			non-pups	0	Observed mortality during activity	1	0.002	1	0.0	0.0	0.0	0.0	0.0	0.0	
Capture/chemical anesthesia 6. Capture, restraint, measurements pups 400 Unobserved/post-capture mortality 1 0.001 1 0.4 <td></td> <td></td> <td></td> <td></td> <td>Unobserved/post-capture mortality</td> <td>1</td> <td>0.0001</td> <td>1</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td></td>					Unobserved/post-capture mortality	1	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	
Interview Interview <t< td=""><td>Capture/chemical anesthesia</td><td>6. Capture, restraint, measurements</td><td>pups</td><td>400</td><td>Unobserved/post-capture mortality</td><td>1</td><td>0.001</td><td>1</td><td>0.4</td><td>0.4</td><td>0.4</td><td>0.4</td><td>0.4</td><td>0.4</td><td></td></t<>	Capture/chemical anesthesia	6. Capture, restraint, measurements	pups	400	Unobserved/post-capture mortality	1	0.001	1	0.4	0.4	0.4	0.4	0.4	0.4	
Image: constraint of the	(inhalable agent-isoflurane)		non-pups	180	Observed mortality during activity	1	0.004	1	0.7	0.7	0.7	0.7	0.7	0.7	8,9
Lapture/chemical anestnesia non-pups 10/Observed mortality during activity 1 0.03/4 1 0.3					Unobserved/post-capture mortality	1	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	
(injectable) Unobserved/post-capture mortality 1 0.01 0.1	Capture/chemical anesthesia		non-pups	10	Observed mortality during activity	1	0.034	1	0.3	0.3	0.3	0.3	0.3	0.3	10
Contractive formation sectation non-pups Opposerved mortality during activity 1 0 0.0 1 (injectable-eg valium) Unobserved/post-capture mortality 1 0.001 0.0 1 0 Lethal take or permanent removal pups 0 Observed mortality during activity 1 1 1 0.0 1	(injectable)				Onopserved/post-capture mortality	1	0.011	1	0.1	0.1	0.1	0.1	U.1	0.1	
Lethal take or permanent removal pups 0 Observed mortality during activity 1 1 0.0 Inon-pups Observed mortality during activity 1 1 1 0.0	(injectable og valum)		non-pups	0	Upobsonvod/post-copture mortality	1	0 0004		0.0					\rightarrow	
Lettina take of permanent removal pops Opposition removal 1 1 0.0 Inon-pups Observed mortality during activity 1 1 1 0.0			nuns	0	Observed mortality during activity	1	0.0001	1	0.0			+		\rightarrow	
	Loural take of permanent removal		non-pups	0	Observed mortality during activity	1	1	1	0.0					-+	

Procedure-														
Handling effects: estimated increased	risk		animals											1
Permanent mark/hot branding	6.h.	pups	400	Unobserved/post-capture mortality	1	0.002	1	0.8	0.8	0.8	0.8	0.8	0.8	
		non-pups	180	Unobserved/post-capture mortality	1	0.0001	1	0.0	0.0	0.0	0.0	0.0	0.0	
"Low risk" procedures	6a,b,d,f,g,l,j,k,l,m,n	pups	2150	Unobserved/post-capture mortality	1	0.0001	1	0.2	0.2	0.2	0.2	0.2	0.2	
		non-pups	1980	Unobserved/post-capture mortality	1	0.0001	1	0.2	0.2	0.2	0.2	0.2	0.2	
"Med risk" procedures	6c,e	pups	0	Unobserved/post-capture mortality	1	0.0002	1	0.0	0.0	0.0	0.0	0.0	0.0	
		non-pups	360	Unobserved/post-capture mortality	1	0.0002	1	0.1	0.1	0.1	0.1	0.1	0.1	
"Elevated risk" procedures	evated risk" procedures 0 Unobserved/post-capture mortality 1 0.001 1 0.0												0.0	
		non-pups	0	Unobserved/post-capture mortality	1	0.001	1	0.0	0.0	0.0	0.0	0.0	0.0	
	Total by ye													
lotes:														
 Pups are defined in the EIS as being of 	on the rookery during the breeding seasor	(June/July)												1
2. '13000 is the maximum number expect	ed to be taken, inclusive of potential for s	ome to be taken 2x (appli	cation pg. 11).											1
32000 is the maximum number expected	ed to be taken, inclusive of potential multi	ole disturbance (application	on pg. 11)											
4. 28,000 is the maximum number expect	ed to be taken, inclusive of potential for s	ome to be taken up to 4x	(application pa	ge 12).										1
5. Distributed from request for 23000 take	es, total (application pg 15)													
Non-range wide survey years														1
7. Range-wide survey in 2007 and 2011														1
8. Assumes non-pup captures are with uw noose, floating pen, or at-sea, and that any adults sedated by dart delivery would also be anesthetized with isoflurane.														
9. Includes age groups 2mo-3yr (120) and >3 yr (60); application pages states these are maximum takes inclusive of potential for recapture.														1
10. Application (pg 19) states if adults car	n not be captured by other techniques dar	ting may be used, but no	specific sample	e size was stated. This analysis assur	nes 10 adultes p	per year captu	ured by dart inj	jection.						

NMML's west SSL predicted mortality calculations.xlsSt George 1119.1882

		Age	Potentially			Mortality		Predicted	Pred	Predicted mortal		y permit	year	
EIS Activity	Application activity	class	exposed	Effect	affected	rate	Frequency	mortality	1	2	3	4	5	Notes
Incidental effects due to researcher p	presence among animals													
Haulouts, rookeries non-breeding	1. Incidental disturbance	pups	0 Alert		1	0.0		0.0						
(scats, resights, captures)			Enter wate	r	0.9	0.0001		0.0						
			Injured		0.0001	0.02		0.0						
		non-pups	5 Alert		1	0.0	12	0.0	0.0	0.0	0.0	0.0	0.0	1
			Enter wate	r	0.9	0.0001	12	0.0	0.0	0.0	0.0	0.0	0.0	
			Injured		0.0001	0.02	12	0.0	0.0	0.0	0.0	0.0	0.0	
Notes:							Т	otal by year:	0.0	0.0	0.0	0.0	0.0	
1. Entered into most conservative (ie, gr														