Date: 2/8/2022, 7:07:15 PM | Print | Close

undefinedundefined

A19-0048 **Stellar Sea Lion Decline (Version 0.0)**

Principal Investigator: Catherine Schuppli

1. Study Team [View Form]

1.1. Please select the Principal Investigator (PI) for the study. The PI is responsible for all aspects of the work conducted under this protocol. Once you hit ..., you can enter the PI's name, or enter the first few letters of his or her name and hit Go. You can sort the returned list alphabetically by First name, Last name, or Organization by clicking the appropriate heading.	**Last Name**	**First Name**	**Rank**	**Online Training**	**Practical Training**
	Schuppli	Catherine	Clinical Assistant Professor	VET105; 20190628-01ABC	VET105
1.2. Provide the name of ONE primary contact person in addition to the PI who will receive ALL correspondence regarding this application. This primary contact will have online access to read, amend, and track the application.					
1.3 Co-Investigators: List all Co-Investigators of the study. These members WILL have online access to read, amend and track the application.	**Last Name**	**First Name**	**Rank**	**Online Training**	**Practical Training**
1.4. Study Team Members All study team members must be listed here and have an up-to-date RISe account, which will contain their online and practical training certificate numbers. Study team members will have online access to read, amend and track the application. Please note that changes cannot be submitted without PI action and consent. All study team members are required to read and adhere to the final approved AUP. The procedures performed by each study team member must be defined in section 4.8b (4.4b Breeding form). To delete a person from the list, click x.	**Last Name**	**First Name**	**Employer**	**Rank**	
	Ratuski	Anna	Land and Food Systems	Sessional Instructor/Lecturer	
Nickname of the Study. What would you like this study to be known as to the Principal Investigator and Study team?	Stellar Sea Lion Decline				

2. Study Dates and Funding [View Form]

You plan to start your project immediately after obtaining animal ethics and any other required approvals	
You plan to start data collection at a later date e.g. 2 months or more after approvals are obtained. Click the calendar icon below to	2019-06-29

select the dates. Estimated start date:	
2.1 b How long do you anticipate this study will continue?	3 years
2.2. Research Funding Application/Award Associated with the study:	**UBC Number** **Title** **Sponsor**
2.3. Please click Add to enter the details for the research funding application/award associated with this study that is not listed in section 2.2. Research Funding Application/Award Associated with the study not listed in section 2.2:	**UBC Number** **Title** **Sponsor** Stellar Sea Lion Decline Wildlife Conservation Society Canada
2.4. Is the associated research funding application/award listed in sections 2.2. or 2.3. from either industry sources or from internal UBC funding opportunities?	no
3. Animal Information & Type of Animal Review [View Form]	
3.1. Please provide the names of at least two Emergency Personnel with 24 hour contact information by selecting Add. To delete someone from the list, select x. To view additional contact numbers for that person, select the Update button in front of his or her last name.	**Last Name** **First Name** **Department/Division** **Contact Number** **Alternate Number1** **Alternate Number2**
3.2. Please select which of the following Canadian Council on Animal Care (CCAC) keywords that apply to your study using the ... button to view the list. If these do not apply to your study, please select Not Applicable from the list. To delete a keyword from your list, select the x next to the keyword.	Blood Sampling, Blood Collection Biopsy/Tissue/Bone Marrow Collection Behavioural Observation Trapping/Netting, Marking/Tagging
3.3. Purpose of Animal Use:	1
3.4. Please select type of application	Research
3.5.a Is this application a renewal/continuation of a previous study?	no
3.5.b Application number from previous study:	
3.5.c Please select Add button to attach a progress report for the previous study:	
4. Animal Information, Procedures, Justification [View Form]	
4.1.a. Objectives of Research Research Applications: Describe how you would explain to a non-scientist, the aim, specific objective(s) and potential value of your study with respect to human or animal health, the advancement of knowledge or the good of society. Briefly	Steller sea lion populations in Alaska are rapidly declining and the cause of the decline is unknown. Research on wild sea lions is being conducted, but since sea lions spend greater than 80% of their time at sea in harsh environments these animals cannot be monitored at great length, so we know very little about their basic biology. In order to study animals in captivity a sealife centre in Alaska can accomodate sea lions for short term research. Our plan to involves capturing 24 juvenile Steller sea lions a year for short-term research (holding time in captivity = 3 months). Animals are captured and brought into holding research facilities located at the centre. In captivity individuals are assessed for their health status, body condition, stress responses, and foraging behaviours.

describe the relationship of the animal studies to the overall objectives of your research. DO NOT exceed 500 words. Teaching Applications: State why animals must be used in the laboratory/project. If alternatives to animals are available, indicate why they cannot be used in this instance.	
4.1.b. As well, please briefly describe in simple language the procedure(s) performed so that the Community Members reviewing this section understand what is being done to the animals. Please do not submit the abstract from your funding application. The summary should provide the requested information in lay terms, so that someone who is unfamiliar with your work will be able to appreciate what you do. DO NOT exceed 500 words.	Sea lions will be capture in water near their haulouts (areas where they come to land). We use a 'dive-capture' technique. Because personnel are not required to land on the haulout, this method minimizes disturbance and thus permits multiple capture attempts at the same site. Once in captivity we collect, physiological data (cortisol, blood chemistry and red and white blood cell counts, fibrinogen, and stress hormones). We also collect blubber, milk and blood serum to examine foraging. We are also testing a new technique to collect hair to assess stress level. Prior to releasing the animals, a satellite and radio transmitter is placed on each animal in order to monitor their movements after release and they are also individually marked by hot-iron branding and flipper tags.
4.2. Alternatives to animal use. What alternatives to the use of live animals have been considered? What reasons did you have for rejecting them? If specific alternatives do not exist, this should be stated or justified appropriately.	In order to effectively study the issues surrounding the decline of Steller sea lions, detailed studies on that species must be conducted. Computer models are not appropriate in studying behaviors in this context.
4.3. Please complete the following Animal Information by selecting Add. To delete an item listed below, select x.	**Species** / **Strain** / **Category Of Invasiveness** / **Vendor** / **Number/Year** / **Housing Location** Sea Lion / Stellers / C / Wild / 24 / Other Institution - Foreign
4.4. Justify both the choice of species and strain. List all strains which will be used. Have other species and strains been considered? If a strain exhibits a specific phenotype that affects the animal's welfare over time indicate what changes are expected and when they may arise. Please describe if there are any phenotypic changes that will negatively impact the welfare of the animal. If there are changes, then ensure this is captured in the monitoring information described in section 5.	Steller Sea Lion decline is the objective of the study.
4.5. Justify the proposed numbers to be used by indicating how the numbers were determined, explaining why these numbers are needed. To help those reviewing please consider attaching a spreadsheet breaking down the animal use. If you have power calculations justifying the n number for specific experiment and control groups please provide this.	The numbers of animals was chosen based on previous work in other captive seal species.

If required use Add to attach documents, graphs or charts for justification of numbers.	
4.6. Will animals be singly housed during this study for any period of time? If yes, please clearly provide justification and duration. (e.g. a couple of hours following the procedure until the animals are fully recovered; following surgery to prevent the animals from pulling suture (up to 7 days); male mice which are fighting (permanently separated). Please indicate "no" or "NA" if no single housing occurs (i.e. do not leave this section blank).	They will be singly housed for up to 3 months while in captivity.
** 4.7. Please attach below OR describe your facility SOP(s) on environmental enrichment. If your facility does not have an SOP indicate what your standard environmental enrichment is (e.g. for rodents hiding places/huts, nesting material). If enrichment is not applicable for your study indicate not applicable and the reason, for example field studies.*	Each seal has a research pool which contains a separate haul-out area for the animal and the research pools are designed to be as close to their natural environment as possible. Since these animals are only being held for a 12 week period before being released back in to the wild, attempts are made to minimize human contact and to minimize associations with humans (i.e. no man-made enrichment toys are provided). However, the feeding method chosen provides the animals with the opportunity to capture their own prey (fish are provided via a remote feeding method that places the fish directly into the pool with no human contact).
SOP(s) on environmental enrichment	
4.8.A. Provide DETAILED description of procedures involving animals. Sufficient detail should be provided so that one can understand what will happen to an individual animal throughout your study. Details of specific procedures can be either detailed here or listed in existing SOPs (see below) but the flow of what will happen to an individual animal throughout the study should be understandable. This section may be supplemented by listing and clearly naming and identifying SOPs and attaching them (in 4.9) or other documents and can also include flow charts and diagrams to help the reviewers of this protocol understand what will be done to the experimental animals. If multiple procedures/treatments are to be done to an individual animal, please clearly explain which animals will have which procedures/treatments and in what sequence. All survival surgery must be done using aseptic techniques. Surgery must be performed within the animal facility in a suite especially designated for this purpose,	Depending on the size of sea lions targeted and sea conditions at the capture site, this method requires a capture crew of 4-6 persons and dive crew of 2-3 divers and 2-3 tenders. We use a specially-constructed line to capture sea lions using the underwater dive capture technique. Divers are deployed at a safe location near the haulout by a boat crew. When the divers are ready to begin capture, the capture boat approaches the divers, throws the capture line to them, and backs away. The capture line remains attached to the capture boat by a 50 foot floating line. Two divers interact with sea lions underwater using the capture line and "bait" on a stick which entices them to enter the capture loop (loop is placed over the sea lion's head). After divers restrain a sea lion, it is brought toward the capture skiff using the capture line. Once alongside the skiff, the sea lion is wrapped into a strong nylon blanket to restrain its movements and prepare for lifting. Once secured, the sea lion is pulled up out of the water using the blanket and rolled into a specially-constructed padded aluminum storage box. Once the box lid is attached, the capture line is removed from the sea lion and the crew prepares for transport back to the research vessel and then the sea life centre. We will try to capture 6 at a time. Animals in Captivity: Health Assessment: Most tests are carried out while the sea lion is under anesthesia. To anesthetize the sea lion they are herded into a small pen and closed in. Anesthetic gas is administered and once the seal is anesthetized a nose cone is placed over the nose. Body condition: We take body measurements (lengths, girths, mass), and use ultrasound to measure blubber thickness. Surveys during this 3-year project will include counts, photographs of branded animals, and documentation of sea lions entangled in marine debris. Photo-documentation of branded animals will help us estimate age-specific survival and dispersal rates, and describe distribution patterns. Documentation of sea lions entangled in marine debris will help us evaluate effects of commercial fisheries. Understanding what Steller sea lions eat and how and where they forage is important in determining whether changes in prey availability were a contributing factor in their decline. indirect methods using chemical tracers, including stable isotope analysis and fatty acid signature analysis, are being used to investigate the diet and foraging ecology of marine predators. Stable Isotope analysis has proven to be an effective method to gather information of marine food webs. Measuring naturally occurring carbon and nitrogen in tissues provides information about the trophic position (roughly analogous to an animal's position on the "food web"). Blubber, milk, and serum samples were collected from Steller sea lions. Assessing the health and fitness in free-ranging populations is logistically challenging and many parameters can be altered by acute stressors, such as capture and handling. We want to test whether better methods can be developed by collecting hair samples. We will also be collecting blood samples via a catheter while the animal is anesthetized. Because sea lions are difficult to recapture and can travel great distances after tagging, we primarily use tracking

unless justified as determined by the Animal Care Committee.	instruments that relay their results via satellite and thus do not require recovery. We attach instruments to sea lion fur using a cool-setting epoxy. Tags can remain attached to sea lions until the annual molt, which begins in late summer, at which time they are shed. In addition we will put permanent number markings on their sides using hot iron brands. The irons were heated in a propane-fired forge until cherry red and placed on the skin for 5 seconds. This burns the skin so a scar remains. This is a similar procedure to branding in beef cattle. Seals are restrained in a small cage and anesthetized during the procedure.
This section may be attached as a word document, especially when including flow charts and diagrams.	

4.8.B. Identify which procedures, described in 4.8.A, each person listed below will perform. Click each person's name in order to add this information. The UBC rodent training courses completed by each person will autopopulate and will indicate which procedures requiring mandatory training each person has been certified to perform. Give level of qualification or training for each person for the procedures not covered by the mandatory UBC rodent training.

First Name	Last Name	CCAC/NIAUT Training	Training Info						Procedures Performed by Individual
Catherine	Schuppli	VET105; 20190628-01ABC	**Course**	**Species**	**Competency Level**	**Course Condition**	**Certificate Issued**	**Course Procedures**	supervising project
Anna	Ratuski	20200121-01Fa; DAL 103-17	**Course**	**Species**	**Competency Level**	**Course Condition**	**Certificate Issued**	**Course Procedures**	all procedures
			IWRR	Mouse	Competent	NC	2020-06-09	Health checking Isoflurane prior to CO2 euthanasia Handling	
			IWRR	Rat	Competent	NC	2017-05-17	Health checking Isoflurane prior to CO2 euthanasia Handling	
			RSCIP	Mouse	Competent	NC	2021-11-19	SQ injections IP injections Restraint	

4.8.C. Please describe morbidity and mortality for each procedure listed above.	
4.9.A. Select any UBC ACC SOPs used in the protocol from the drop down list below by selecting the ... button.	**title:** **Code:**
4.9.B. Are you referencing any approved PI specific SOPs in this application?	no
If yes, please attach the SOP(s) here by selecting Add	
4.9.C. For non-ACC approved SOPs and other documents attach here	

5. Animal Monitoring [View Form]

5-1 Post Procedure Monitoring	All animals will be monitored everyday. They will be observed from a distance so as not to disturb them. We will look for general signs of illness such as lethargy, reduced appetite, poor body condition, skin infections, respiratory distress. If animals appear unwell, then a closer physical exam will be performed. This may require sedation. After branding, animals will be held until they are warm and moving around normally. They will be released to their pens once they are behaving completely normal. The brand location will be inflamed, we will monitor for signs of infection for 1 week after branding.

For Categories of Invasiveness D & E and a subset of C, monitoring records are required. Please attach monitoring/scoring records that are to be filled out during the study. These should include humane endpoints.	
5.2. Describe each experimental endpoint for the studies described in this protocol. The explanation should incorporate time and/or condition (such as tumour size or time point following treatment). Death of the animal is not an acceptable endpoint. Experimental endpoints need to be specified for each study or procedure. Please also indicate the MAXIMUM AGE of the animals at Experimental Endpoint (e.g. in weeks, months or years).	Animals are released after 3 months in captivity. If we get sufficient data prior to that, they will be released earlier.
5.3. Humane Endpoints. Describe the potential signs of illness or distress that will result in euthanasia. These should be described for each study or procedure described in this protocol.	We do not expect animals to require humane euthanasia. If animals are showing signs of illness such as weight loss, lethargy, infections, or injuries, a local veterinarian will be consulted.
Please attach additional information (including Standard Operating Procedures for monitoring) by selecting Add.	
5.4. The following types of experiments are generally considered to be of a contentious nature. Please indicate if any of these conditions apply to your study by selecting Add and viewing the list. If these do not apply to your study, please select Not Applicable from the list. To delete an item from your selected list, click x.	**Contentious Issues** Not Applicable
5.5. Detail any additional assistance that may be required to ensure that the project will be carried out in a competent and humane manner.	

6. Drugs and Chemicals [View Form]

6.1. ANAESTHETIC/SEDATIVES. Please select Add to enter. To delete an item from the list below, select x.	**Name of Drug**	**Other**	**Dosage**	**Volume**	**Route**
	Isoflurane		to effect		Inhalation
6.2. ANALGESICS and ANTI-INFLAMMATORY AGENTS. Please select Add to enter. To delete an item from the list below, select x.	**Name of Drug**	**Other**	**Dosage**	**Volume**	**Route**
6.3. ANTIBIOTICS. Please select Add to enter. To delete an item from the list below, select x.	**Name of Drug**	**Other**	**Dosage**	**Volume**	**Route**
6.4. OTHER DRUGS,					

CHEMICALS, BIOHAZARDOUS MATERIALS AND RADIOISOTOPES. Please select Add to enter. To delete an item from the list below, select x.	**Name of Drug**	**Other**	**Dosage**	**Volume**	**Route**
6.5. What are the expected side effects of the compounds listed in 6.4 when given at the doses indicated? Identify toxicities that have been identified in the species being studied. If side effects in the animal species that you are using are not known then indicate this; however provide toxicity information that is known in other species if available. As a result of toxicities and/or anticipated toxicities will these animals require special care? If so, please indicate who will provide it and make sure this information is captured in the monitoring process. If you are working with chemicals which require a chemical risk assessment, please attach a copy of your risk assessment here. If you are unsure whether you need a chemical risk assessment, please email researchsafety@rms.ubc.ca or consult the Risk Assessment section on the UBC RMS Chemical Safety Resources page.					
Attach documents here:					
6.6. What will be the ultimate fate of the animals? If euthanasia is planned, describe the method that will be used including drug dosage and administration route. If a physical method of euthanasia is required (for e.g., because the use of drugs is likely to jeopardize the results of the study) scientific justification is required. The technique must be demonstrated to a UBC veterinarian and the viewing certificate attached.	We do not plan on euthanizing animals. They will be released.				
Attach documents here:					
6.7.a. Will any hazardous materials (chemicals, biologicals, radio-isotopes, infectious agents, radiation/x-rays) be used in the study in vivo? Note: Hazardous chemicals listed in 6.4 should be listed here. All non-fixed animal tissues also require an RG-1 Biosafety Certificate (e.g. Tissues taken for DNA/RNA/protein extraction, tissues for cryosectioning, etc.) should be listed here.					
6.7.b. If 'yes', please list the hazardous agents					

6.7.c. Certificate Number (Biosafety, Radiation):	
8. Signatures and Final Page [View Form]	
Please confirm that all associates listed on this study have read and agreed to comply with this study.	
If SOPs have been attached or referenced in this application, please confirm that all team members listed in sections 1.3, 1.4, and 1.5 have read the SOPs and they understand, accept and agree to follow the methodological procedures described in those SOPs.	
Please confirm that all study team members are aware that Post-Approval Monitoring, including laboratory visits/viewings, are an important regulatory requirement that the University of British Columbia must meet. Continued protocol approval and renewal are subject to full cooperation with the PAM process and achieving compliance in a timely manner.	
Please confirm that the work described in this protocol is conducted solely for grants listed.	

Print Close