Fall 2018

Lions and Tigers and Bison, Oh My! Adventures in Developing Experiential Learning Opportunities

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Abstract

During a Fall 2018 sabbatical, Nancy Holcroft, professor, Biology, developed experiential learning opportunities for JCCC students through two projects. The first project involved the creation of a dual-listed JCCC Honors/Science Special Topics biology course based on the National Collegiate Honors Council’s “Partners in the Parks” model. This course, to be offered in Spring 2020, will allow JCCC students to explore first-hand the biodiversity of the Black Hills and Badlands regions of South Dakota. In the second project, Holcroft performed service-learning at Cedar Cove Feline Conservatory and Education Center in Louisburg, Kansas, in preparation for offering service-learning contracts in her JCCC General Zoology and Biology of Organisms courses. These experiences are summarized herein, including a comprehensive sabbatical summary, the draft course outline for the new Special Topics course, service-learning journals and summary evaluation, and a Cedar Cove service-learning white paper written for students considering service-learning at that facility.
SABBATICAL SUMMARY

My Fall 2018 sabbatical leave allowed me to develop a new, biodiversity-focused, travel-based experiential learning course; perform service-learning (SL) to gain experience and credibility in preparation for offering SL contracts in my classes; and pursue personal creative goals.

PROFESSIONAL DEVELOPMENT

The professional development portion of my sabbatical comprised two projects. For the first project, I designed a site-based, experiential learning course that will give students the opportunity to actively explore biodiversity of the Black Hills and Badlands and its management by various state and federal agencies. When implemented in Spring 2020, the course will be a cross-listed Honors Special Topics and Science Special Topics offering that will culminate in the students traveling to Badlands National Park, the Black Hills National Forest, Wind Cave National Park, and Custer State Park. For the second project, I engaged in 103 hours of service-learning at Cedar Cove Feline Conservatory and Education Center in Louisburg, KS, to experience first-hand the sorts of opportunities and challenges my own students will face as they complete optional service-learning experiences with my courses.

Project One: Experiential Learning in the Badlands and Black Hills

I scouted potential learning sites in the Badlands and Black Hills in July. My original plan had been to do this in September, but several complications forced this to occur earlier. The scouting trip was critical to paring down the list of candidate sites. I was able to evaluate, first hand, the biodiversity and logistic factors associated with each candidate site. I was also able to talk to rangers and interpreters in person to begin establishing contacts within each selected site (as well as having the opportunity to get a feel for which sites were most open to this type of student visit).

Ultimately, based on my scouting experience, I selected four locations in the Badlands and the southern portion of the Black Hills: Badlands National Park (BNP), Black Hills National Forest (BHNF), Custer State Park (CSP), and Wind Cave National Park (WCNP). These sites present a rich variety of biodiversity and biome contrasts within a geographically tight area, making travel between locations highly tractable. This group of sites also provides a diversity of management agencies (National Park

Badlands National Park. Mixed grass prairie is home to bison, bighorn sheep, black-footed ferrets, and others.
Service, United States Forest Service, and South Dakota Game, Fish, and Parks), giving students the opportunity to compare and contrast the different management approaches of each. They will also have the chance to see how these agencies act collaboratively to manage the species in their boundaries.

Some logistics are still being developed because setting the precise itinerary, including the specific dates for each location, cannot be arranged with park staff until we are closer to the May 2020 trip. The timing of our trip coincides with some of the new park staff orientations just prior to the start of peak season, which could present both challenges and opportunities.

The course outline has been developed and is ready to move through the Division Curriculum Committees when we prepare to offer the course in Spring 2020. Fundamentally, it is a natural history course based on the National Collegiate Honors Council’s (NCHC) “Partners in the Parks” (PITP) experiential learning model. PITP is a “sub-model” of their Place as Text experiential learning model, and after reading through NCHC’s monographs on both, PITP seemed the best fit for this Special Topics course. In particular, PITP’s stated purpose is “to educate, to engage, and to urge stewardship” of our national parks, and this philosophy is woven throughout the course design. Some elements did not seem like a good fit for this course or for our JCCC students (e.g., PITP encourages students to go on solo hikes, which is something that neither Anna Page, the Honors Director, nor I think is a good idea for our group), so I tailored the model to best serve our students.

I took care to craft this course outline in such a way that it could be easily modified to explore biodiversity in other locations in the future (e.g., the desert Southwest, the Pacific Northwest, the Everglades, etc.). Similarly, the locations selected for this trip (BNP, BHNF, CSP, and WCNP) could be explored through the lens of other disciplines (e.g., geology, geography, history, sociology, anthropology, literature, ethics, etc.); professors developing this would have the benefit of local logistics knowledge gained from our inaugural trip.

I also took care to ensure that, although the course focuses on biodiversity, course outcomes were portable and not solely biology-specific. Students completing this course will be able to identify and apply credible sources of information and create synthetic works in multiple formats. Through the fieldwork portion of the course, students will also gain experience working

While Wind Cave National Park is most famous for its cave system, its surface harbors diverse flora and fauna. Its northern border is adjacent to Custer State Park.

Harebell, *Campanula rotundifolia*, is abundant in the Black Hills.

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as a team and problem solving. They will have the opportunity to develop employer-sought soft skills such as listening, reading body language, storytelling, and writing technical reports. While in the field, they’ll practice flexibility, critical observation, logical thinking, resourcefulness, and troubleshooting. The creation of a Grinnell field journal will allow them to practice organizing and presenting notes in such a way that the information contained therein is easily accessible to others, a portable skill that can be applied to a wide variety of other fields beyond biology. Through participation in this Special Topics course, students will be better able to function in an environment outside their comfort zone and have increased awareness of personal strengths and weaknesses.

**Project Two: Service-Learning at Cedar Cove**

My second sabbatical project, completion of service-learning (SL) at Cedar Cove Feline Conservancy and Education Center in Louisburg, Kansas, was both a rich learning opportunity and highly personally rewarding. One of the most valuable aspects of experiential learning is that unpredictable events or circumstances can present unique opportunities for seeing course concepts in action if you are open to it, and I am excited for my students to experience this, too.

Engaging in SL myself has given me detailed awareness of the sorts of challenges and opportunities open to my students choosing to complete SL contracts at Cedar Cove. Challenges include the absolute necessity of being mindful of safety and proximity to animals that can easily injure or kill you, working outside in adverse weather conditions, prepping huge quantities of raw meat, cleaning up huge amounts of poop. Opportunities include getting to know each animal as an individual, practical application of course concepts (e.g., diet, parasites, integument, behavior, etc.), employer-sought hands-on experience in an animal care setting, and having the chance to help educate the public about their conservation. Like students taking the new Black Hills and Badlands course, students completing SL at Cedar Cove will also practice soft skills such as flexibility, critical observation, logical thinking, resourcefulness, troubleshooting, and listening.

It has been a humbling experience to work around both the animals (who I can only describe as magnificent, as cliché as that is) and the myriad park volunteers who care deeply about their welfare. I continue to learn new things every time I go out there, and I am continuing to volunteer at the park even though my official SL period has ended.

*Boris, a Siberian lynx (Lynx lynx), is picky and must be hand-fed chunks of meat that are not too large. He also likes to be fed them in a particular order.*

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*Huxley, a red fox (Vulpes vulpes), likes to jump on your back. He does not like that his enclosure is next to the lions’.*
PERSONAL DEVELOPMENT

While I was able to engage in creative activities like knitting and sewing while on sabbatical, it was on a limited basis and I did not accomplish all of the goals I had set. The major factor was the need for me to help with the Organisinal Biology Program’s (OBP) comprehensive program review and an adjunct hire. In Life Science, faculty members, not the Chair, write the program reviews (there are four programs under one Chair in Life Science). OBP is a small program with only three full time faculty members; one is new, still in her probationary period, and the other shouldered much of the responsibility for the comprehensive program review for the other program in which he teaches. Because of this, and because I am the lead for this program, it was necessary for me to contribute to our program review.

Again, because I am the lead professor for OBP, I also participated in a search to find a professor to teach a new section of BIOL 150 added late in the game (after Spring 2019 enrollment had already started). I will be the only other person teaching the course next semester and thus will be mentoring and working directly with this adjunct, so sitting out on the hire was not an option in any real sense.

I also spent more time at Cedar Cove than I had originally planned, which eroded some of my crafting time.

Finally, my sewing/quilting was hampered by sewing machine’s unexpected five week stay at the repair shop. I had taken it in for a tune up/cleaning at the end of the summer, and in the course of the tune up, they… broke something. It took the shop a while to find the problem and fix it. As a result, my quilting output was not nearly as high as I’d planned.

Nevertheless, I did have the opportunity to work on several projects. I joined a “block of the week” quilt along (QAL) during the summer, the Summer Sampler 2018, in order to push myself to learn some new techniques and to think differently about color and pattern. I fell behind—a block a week doesn’t sound like too much, but when juggling family responsibilities, it becomes easy to fall behind—and I was able to catch up to a manageable point during sabbatical. I also accomplished significant progress on a new quilt, my version of John Adams’ “Pacific Crest” quilt. Finally, I managed to finish a top that I had started in January 2013—Carolyn Friedlander’s “Local” quilt.

I also accomplished some knitting goals during my sabbatical. I finished up my “Faerie Dragon” sweater (and in time for the weather change), which was a big goal. I also knitted most of a second, lightweight cardigan (“Echinopsis Cardigan”). I completed three hats as well.
REFERENCES


SUPPORTING DOCUMENTS

Course outline, HON 292/SCI 292 Special Topics

Cedar Cove Service-Learning Journal and Summary Evaluation

Cedar Cove Service-Learning Summary White Paper
HON 292/SCI 292: Honors/Science Special Topics

- **Title:** Exploring Biodiversity: Protected Places in the Black Hills and Badlands
- **Number:** 292
- **Effective Term:** Academic Year 2019-2020
- **Credit Hours:** 3
- **Lecture:** 3  **Lab:** 0  **Other:** 0
- **Contact Hours:** 2 hours/week during semester plus eight days of travel

**Requirements**

Prerequisite: department approval
Prerequisite or Corequisite: none
Corequisite: none

**Description**

This course gives students the opportunity to explore, via experiential learning, iconic prairie and forest biodiversity of the Black Hills and Badlands of South Dakota through coursework that culminates in travel to the region. The role of federal and state agencies in managing these species will also be explored. SCI 292 and HON 292 are the same courses; only enroll in one.

**Course Fees:** None
**Textbooks:** [http://bookstore.jccc.edu/](http://bookstore.jccc.edu/)
**Supplies:** Refer to the instructor's course syllabus for details about any supplies that may be required.

**Objectives**

1. Describe basic geographical, geological and climatological features of the Black Hills and Badlands.
2. Identify and describe the major biomes found in the Black Hills and Badlands.
3. Identify and describe the key characteristics, basic biology, and habitat requirements of the major taxonomic groups and common species found in the Black Hills and Badlands using proper scientific terminology.
4. Analyze adaptations and ecological impacts of common Black Hills and Badlands species in the context of their environment.
5. Interpret species observations via application of evolutionary and ecological principles.
6. Integrate information from observations, guides, and taxonomic keys to correctly identify species.
7. Create a detailed and accurate field journal, including species accounts and maps, in multiple formats.
8. Evaluate the roles of the various public agencies managing selected protected regions of the Black Hills and Badlands.
Content Outline and Competencies

I. Geography, Geology, and Climate of the Black Hills and Badlands
   A. Describe the basic geography of the Black Hills and Badlands.
   B. Outline the geological history of the Black Hills and Badlands.
   C. Identify and describe the major geological formations in the Black Hills and Badlands.
   D. Identify major fossil groups found in the Black Hills and Badlands.
   E. Contrast the climate of the southern Black Hills with that of the Badlands.
   F. Relate the region’s climate to the typical weather conditions in each of the four seasons.

II. Black Hills and Badlands Biomes
    A. Identify and describe the major biomes occurring in the region.
    B. Relate each biome’s dominant flora and fauna to its seasonal temperature and rainfall.
    C. Compare and contrast mixed grass prairie, coniferous forest, and deciduous forest and identify the locations of each in the Southern Black Hills and Badlands.

III. Characteristics and Biology of Major Taxonomic Groups
     A. Define morphology.
     B. Define phenology.
     C. Differentiate plants, fungi, and animals.
     D. Identify and describe the major taxonomic groups and common, iconic species found in the Black Hills and Badlands using proper scientific terminology.
        1. Key morphological characteristics
        2. Basic biology
        3. Habitat requirements

IV. Adaptations and Ecological Impacts of Species
    A. Relate form to function in common Black Hills and Badlands species.
    B. Identify notable non-native, introduced, and/or invasive species present in the Black Hills and Badlands.
    C. Describe the abiotic challenges and limiting resources faced by species living in the region.
    D. Identify and describe the major levels of terrestrial trophic webs.
    E. Identify and describe the major types of interspecific interactions and analyze the role of both parties in each.

V. Species Observations
    A. Predict likely viewing locations by integrating knowledge of species characteristics and behavior, local conditions, and prior sighting data.
    B. Record accurate and detailed observations of species in field settings.
    C. Identify and describe the trophic role and ecological niche of each observed species.
    D. Identify and describe discernable morphological and behavioral adaptations of each observed species.
    E. Relate observed behaviors to local environmental conditions at the time of observation.
    F. Analyze the role of each party in observed intra- and interspecific interactions.
VI. Identifying species
   A. Identify criteria used to establish credibility of scientific sources.
   B. Appraise credibility of various field guides and taxonomic keys.
   C. Evaluate the strengths and weaknesses of printed vs digital guides and keys.
   D. Synthesize credible field guide and taxonomic key data with field observation data to correctly identify organisms to species.
   E. Assess the challenges involved in species identification.

VII. Field Observations and Journaling
   A. Identify the components of a field journal.
   B. Explain the importance of including a species list as part of a field journal.
   C. Explain the importance of a hand-drawn field site map and identify the necessary components of such a map.
   D. Create a map of each field site visited to be included in the field journal.
   E. Create an analog field journal using the Grinnell method.
   F. Create a digital field journal using the app iNaturalist.
   G. Evaluate the pros and cons of analog and digital field journal methods.

VIII. Role of Public Agencies
   A. Identify the major public agencies managing the Black Hills National Forest, Badlands National Park, Wind Cave National Park, and Custer State Park.
   B. Compare and contrast the missions of each of the agencies managing these areas.
   C. Evaluate ways in which resource management/conservation needs and public expectations/visitor experience collaborate vs conflict with each other.

Method of Evaluation and Competencies
Written exam(s): 15–25%
Presentation: 10–15%
Field Notes: 15–25%
Field Journal: 35–50%
Reflections: 10–15%

Grade Criteria:
90 – 100% = A
80 – 89% = B
70 – 79% = C
60 – 69% = D
0 – 59% = F

Caveats
This course will involve travel to the Badlands and Black Hills of South Dakota. Significant time will be spent outdoors, and weather conditions may range from snow to high heat to downpours. Students should be prepared to meet weather and terrain challenges.
Disabilities
JCCC provides a range of services to allow persons with disabilities to participate in educational programs and activities. If you are a student with a disability and if you are in need of accommodations or services, it is your responsibility to contact Access Services and make a formal request. To schedule an appointment with an Access Advisor or for additional information, you may send an email or call Access Services at (913)469-3521. Access Services is located on the 2nd floor of the Student Center (SC 202).
Cedar Cove Service Learning Journal
Nancy Holcroft

Sunday, 16 Sept 2018, 9:30 a.m.–3 p.m.
First day of service-learning (SL) at Cedar Cove (CC). Started morning with food prep. Training with Jessie and Ariella (sp?). Prepping Tuesday meal for big cats (tigers, lions). Most are being fed on low weight, though Kimar and Tonka both getting mid weight. Feeding amounts vary seasonally and depending on health status. Tonka is recovering from some health issues (and accompanying poor appetite), so they are trying to get him to eat more and regularly. Food mostly donated by Walmart as part of their recycling program. Try to spread out who gets what (evenly distribute the pork, beef, and poultry in the bins initially), do a first pass, then check weights and adjust as necessary. Food prepped ahead of time will NOT have vitamins/supplements added at that time; these are added on the day they are fed. For sketchy-looking meat, the question is whether it is likely to keep until feeding day 48 hours from now. Some have additional things to watch out for; Mohan needs bigger chunks as he has a history of choking.

After prepping food, we filled out the food log and thoroughly cleaned the prep surfaces. I also scrubbed out buckets containing meat packages (these had a lot of blood from leaky packages). Floors are scrubbed as needed; we did not clean them today as prep was pretty clean.

In the afternoon, Cammy had me accompany one of the tours to see how they are done, the kinds of questions people have, etc. This also helped me start to learn about the different animals’ history and personalities. They currently have 28 animals at their facility. She then had me observe the tiger feeding (the public gets to see these, too). Cammy provided me and another volunteer with CC’s in-house tour information document, which gives detailed information about the facility and its history. It also details each individual animal.

They also have a period of time when volunteers are at “stations” (one or more volunteers at each enclosure to answer questions about the animals in that enclosure). She had me walk those and observe how those are done and the kinds of public questions that arise.

The day was very hot and humid (almost 90 degrees), and one female visitor did experience a heat-related episode and needed assistance. This was primarily handled by Jim, a long-time CC volunteer. They got her into a wheelchair and into the air conditioning. They did offer to take her through the rest of the tour via a motorized cart, but she declined as she was concerned about being out in the heat again.

It was interesting to see how much the cats’ behaviors mirror house cat behaviors. It was also interesting to see how similarly the tigers behaved at feeding time—all ate their food, immediately groomed their paws and faces, and then went into nap mode. It was also very interesting to learn that the enrichment activities they provide their tigers are quite a bit different from the enrichment that you’d find at a zoo. At a zoo, the animals are kept as wild as possible, and the goal of enrichment activities is to stimulate natural behaviors. Wild tigers are solitary and enjoy things that stimulate hunting behaviors, so providing large barrels or boxes are often effective. CC initially tried this with their tigers, but because all had been raised by humans and
are kept near other such tigers at CC, their tigers are very socially oriented. As a result, they had to rethink their enrichment activities. Their tigers (except Jai) have access to a one-acre enclosure on an individual, rotating basis. Allowing them to use the same enclosure at different times allows them to investigate the marks left by the other tigers and to leave their own scent-based communications. Steve, the head of the facility, is currently reworking the enclosure to make it into four smaller enclosures so that four tigers can be in an enclosure at any given time and so that rotations are made more frequently. This in turn means that the tigers have the chance to check out “new” areas and different scent messages from other tigers more frequently.

Visitor interest in the two white tigers was predictably high, and they had lots of questions about how the white color happens, whether there are white tigers in the wild, etc. There were also questions about ligers (CC does not have any and does not want any), whether the animals are bred, and how much they eat and how often.

One of the most striking things (to me, anyway) was the fact that so many of these animals have come from private owners who thought they could handle raising a large, wild animal as some kind of pet. In some cases, these huge cats have been declawed and even had canine teeth filed down. Some were cases of people trying to do the right thing but not knowing how—e.g., trying to raise an animal orphaned by a car strike, a dog killing its mother, etc. At least one was mistaken identity (kids found a bobcat kitten in a barn and the family thought it was just a feral cat until it was larger).

Wednesday, 19 Sept 2018, 11 a.m.–5:30 p.m.
Today, I worked with Amy, a long time CC volunteer, on small cat (and other animal) food prep, feeding, and habitat clean up. Whereas the large cats are fed four days a week (Tuesday, Thursday, Saturday, Sunday), the small cats, coatis, wolves, and foxes are fed daily.

Because the food we prepared would actually be fed that day (as opposed to food prepped a couple of days ahead for the big cats), we added supplements to the food as well. The supplements include carnivore vitamins, fish oil, and Cosequin (for older animals and those with known joint problems). In some cases, the supplements have to be well-hidden in the food to avoid rejection (e.g., the gray wolves hate the carnivore vitamins, so they have to be hidden in the meatball and masked with other strong smells like kibble).

Several of the cats are older or have trouble chewing, so their food has to be cut into smaller pieces and/or hand fed. Boris, their Eurasian lynx, is very particular and has to have small chunks hand fed, and he will not eat anything that has fallen on the ground unless it is rinsed off first. Issues like this mean that feeding takes a considerable amount of time. There can also be a decent amount of food waste (that must then be removed from a habitat before it gets really messy, attracts flies, etc.).

Keeping water bowls full is also a constant challenge, especially in hot weather (and today was very hot with temperatures in the 90s and high humidity). Some water is pumped in from their on-site pond and filtered, and some animals receive distilled water. Water bowls for the large cats are generally filled using a strong hose hooked up to the filtered water supply so that the
volunteer can be well away from the enclosure. One of the tigers, Sundari, was making things difficult by knocking over her water dish as soon as it was refilled. This is another challenge faced by a facility with animals in captivity—the animals don’t understand that knocking over a water dish might mean no water for hours. Facilities need almost round-the-clock monitoring for this sort of issue. (Of course, she also got a nice spray down every time her water was refilled, so she might have been doing it for precisely that reason. Or just to get into trouble… animals have their own personality quirks, too.)

Working around Sundari today drove home the importance of remembering that these are fundamentally wild, unpredictable animals. Sundari kept an eye on me any time I was within her line of sight. Amy said that she doesn’t really like women in general, and I am new, so she is also still figuring me out. It was important that I not turn my back to her at any time (which was tricky when walking past the side of her enclosure).

Tonka, the male African lion, doesn’t seem to really like anyone other than Steve, the facility owner. We had to carry buckets of distilled water down to the lion enclosure because they don’t want to take any risks by giving him filtered pond water while he recovers from a paw infection. Tonka did not want Amy anywhere near his water buckets, though, so she ultimately had to call Steve down (he lives on site) so that he could deal with the water. He wasn’t particularly happy about that, but he also knows that Tonka can be very difficult for anyone but him. Amy, Suzy, and Eric (all long time CC volunteers) speculated that Tonka engages in that sort of behavior because he knows that it will get Steve down there and then he will get all kinds of attention.

I think the biggest surprise for me today was how long the basic chores took. I would have thought that food prep, feeding, and cleaning would have gone much faster. However, because the animals are living creatures with their own personalities and agendas, things can take much longer than expected. It’s easy to see how plans for less immediate needs (e.g., constructing new enclosures, adding enrichment like grass to current ones, etc.) can be delayed significantly because of more pressing, daily requirements.

**Wednesday, 26 Sept 2018, 10:10 a.m.–5:15 p.m.**

Today was small cat food prep, feeding, cleaning, and watering again. We started with the foxes (they have a red fox and an arctic fox). We went in to change the water and check to see if they’d eaten the food Amy gave them earlier in the morning, and Huxley (the red fox) jumped onto my back while I was bent over, nibbled my ear, and peed a tiny bit—but more than enough—on my shoulder. Thus, I smelled the overwhelming smell of fox pee for the rest of the day (it’s very similar to skunk smell). Everyone standing near me did, too.

Most of the food prep followed the same protocols as last Wednesday. The trickiest part, to me, is making sure that I am keeping track of exactly who gets what in terms of supplements. There is a spreadsheet posted on the wall, and consulting that to double check things was critical. It was also important to know the tricks to get the supplements into the food so that the animals actually ingested them.
The spreadsheet also has approximate weights of each animal plus the amount of food (in pounds) that it is fed each day. I am thinking it would be good to have students use these data to calculate the food consumption to body size ratio and compare winter and summer values, too.

We saw some very classic dominance behavior while feeding the wolves today. Each wolf grudgingly took its meatball containing the ProDen dental supplement without trouble, though each then proceeded to eat around the supplement. However, when Amy put the regular food into the enclosure, the male and alpha, Lakota, attacked the female, Kiowa. He snarled, bit, and jumped on top of her; she yelped repeatedly and immediately rolled over onto her back and tucked her tail up between her legs in a sign of submission. Even after that, Lakota chased her around the structure in the center of their enclosure until she went to a different corner away from him, the food, and the structure. Amy did manage to bring some food directly to her.

Many of the animals were more active and visible today. The weather was much cooler (low 60s), so this probably contributed to the increased activity levels. It was interesting to see—very clearly—which cats/animals are from cooler or seasonal regions vs those from hot habitats. The servals were definitely displeased with the turn in the weather and spent their time in their warmer enclosed rooms. The mountain lion, lynx, and tigers, on the other hand, seemed to really appreciate the cooler temperatures.

There is clearly some disagreement among the volunteers over how to handle the cats that are overweight. Because the enclosures are relatively small, and several of the cats are elderly and/or have joint problems, getting enough physical activity is a challenge. Some volunteers feel that the correct response is to feed the animals less to compensate. Others feel that feeding them less is not the right solution (and could run afoul of USDA rules; the park is regulated by the USDA) and instead the focus should be on prioritizing expansion of the enclosures.

Saturday, 29 Sept 2018, 9:40 a.m.–1 p.m.
Today, I helped Noah and Ariella with food prep activities. Steve had picked up the Walmart meat for the week just as I arrived (Jim usually does this on Fridays but was unable to this week). I sorted the meats into bins for beef, pork, bone-in chicken, and boneless chicken, plus one bin for particularly large cuts of meat.

It was interesting to learn that, in general, they do not keep or feed organ meat. There were a couple of packages of chicken hearts and gizzards, some turkey necks, and two beef livers; they only kept the beef livers to feed to the animals. I’d have thought that some of the smaller cats would’ve loved the gizzards and hearts, but I was told to toss them, and no one really gave me a clear answer as to why they don’t use them (I can see issues with the small bones in the turkey necks, but hearts and gizzards are just muscle).

They also do not generally keep fish. Jim had started a small container for tilapia for Midge and Casey, the two elderly bobcats, but otherwise, salmon and catfish were thrown out, and they don’t feed the cats fish in general. Again, there wasn’t a clear explanation. The salmon was especially surprising given that they supplement all of the food with fish oil.
They did also have partially-butchered deer on hand, and Steve told us to make sure that a 4–5 lb chunk was set aside for Tonka, the male lion (who is still bulking up after losing weight due to the paw infection).

After sorting the meat, I helped with the last bit of small cat/other animal food prep. Noah does the wolves’ ProDen supplement differently than Amy does; he spreads it out among several meatballs and counts on the wolves to eat them all (he indicated that they typically do). He also felt that, since ProDen helps with the teeth but is not something like an antibiotic or other critical medication, it’s not as critical to make sure they get every bit every day. These sorts of judgment calls are being made by the different volunteers each day; there is some standardization, but there is a significant amount that is left up to individuals.

After that, we worked on the large cat food prep for today and tomorrow (Sunday). The food is split between the two days in order to make sure they can offer feedings both days; the feedings are a tour draw, which in turn helps to financially support the care of the animals. Noah had me remove the ribs and spine from the whole chickens we used to avoid sharp bones causing trouble. He actually ran into trouble himself when trying to cut through the synsacrum and pelvic girdle on one chicken—this was a place where knowing the bird’s anatomy was helpful in getting it into the desired pieces sans the undesirable bones.

Toward the end of this, Cammy came in, and a discussion was started regarding the feeding amounts. There is clear disagreement among the Board members themselves as well as among volunteers and Board members regarding how much the animals should be fed overall and on a given day. Most of the animals have a “mid” number; they can be fed this amount, the “low” number, or the “high” number. Steve makes the call on which one they are given as well as what the middle values themselves are, and not everyone agrees with the assigned numbers. Again, this gets back to the issue of several of the animals being overweight because of age, joint problems, and/or lack of physical activity opportunities. Cammy explained to me that ultimately the supervising veterinarian sets these values, but their vet (who does the work pro bono) has been reluctant to get into the middle of a dispute among several strong personalities over feeding amounts and would rather give them a broad range and let them make the call. Cammy had tried to find USDA guidelines for feeding amounts, but the guide they use did not include that information. This seems to be a simmering unresolved issue.

Wednesday, 3 Oct 2018, 10:30 a.m.–5:40 p.m.
While waiting for Amy to come down to the gate to let me in, I had the chance to check out a rotting deer carcass left by a well-meaning hunter. Eric said that it’s not uncommon for hunters to remove antlers and leave a carcass, thinking that the carcass can be used for food for the cats. It can be, but only if it has not been sitting out all night decaying—basically, someone has to find it soon enough to bring it in and carve it up. That was definitely not the case here—this carcass was well into putrefaction. The neck was an unholy shade of green, and there were obvious pools of liquefaction on the surface of the torso in several places. Yuck. Steve ended up having to haul it out to a back portion of the property to let it finish rotted away from the facility.
I went into several enclosures for the first time today. I went into Midge and Casey’s enclosure; they are elderly bobcats. Both are over 20 years old; Casey is mostly blind and deaf and tends to follow Midge around. They have had some runny poop issues and are on a five-day course of antibiotics (they seem to be helping as we found a couple of normal poops in addition to an older, runny one). They ate the larger chunks of chicken containing the pills without any trouble even though their regular food gets diced into tiny, tiny pieces. They were both very interested in smelling my jeans and shoes and then made sure to rub their scent all over my clothes (my cat was VERY interested in these smells when I got home!). Despite their smallish size and advanced age, I could still feel the dense muscle on both as they rammed their heads into my legs.

Suzy told me later in the day that she thinks that they will probably make it through the winter but not much longer; she thinks Midge is getting frail and that Casey won’t hang on too long with her gone. This impacted me more than I anticipated given the relatively short time I’ve been doing SL there.

I also helped clean up Oscar’s (serval) and Sami’s (caracal) enclosure. Oscar is very particular about where he poops—he has a certain spot, and because his regular spot was covered up by some new sod, he pooped just to the side but still in a discreet spot. Sami, on the other hand, poops all over her enclosure, and her poops can be hard to tell apart from rocks, so it’s kind of a gross scavenger hunt to clean up her enclosure. That’s an interesting thing… some of the animals poop in certain spots, and some poop all over. It might be interesting to look up information in the literature to see who uses fecal material for territorial marking vs who has more of a latrine set up. Might be a good thing to have students look into.

Kiowa and Lakota (the grey wolves) were having none of their “hidden” ProDen dental supplement today. They both refused to even take the meatball, and when Amy put them on a rock in the enclosure, Kiowa’s response was to roll around on it. She did the same thing when Amy gave up and put the rest of their meatballs in there, too. They had ground deer meat today, so perhaps it was the gamey scent? You could almost hear Kiowa thinking, “YASS, I WANT TO HAVE GAMEY FUNK SMELL.” Canids.

Eric and Suzy brought in a fruit tray for the coatis and foxes. Like dogs, foxes should avoid grapes; the coatis, though, can eat them and apparently love them. They all liked the honeydew and cantaloupe.

Steve and Eric were hard at work on preparing the medical building (where we do food prep) for their big Prowl-o-ween fundraiser event. Steve is apparently a Halloween nut and looks forward to setting up the haunted house all year. They were also discussing logistics of how to get three huge refrigerater/freezer units being donated by Beethoven’s (a restaurant in Paola) to Cedar Cove. Having the freezers would substantially improve the meat storage situation, including much better organization. Currently, everyone depends on all volunteers being mindful to put the newest meat at the bottom of the bins so that the oldest meat is at the top and gets used first, but people get into a hurry and then valuable food resources are lost. Having upright storage with clear labeling would help immensely.
Jackie, a long-time resident house cat, was looking markedly frail today. I am not sure how much longer she will be there. Again, this affects me more than I expected.

**Wednesday, 10 Oct 2018, 10:10 a.m.–5:00 p.m.**

Today was not the best day. It was cold and windy, and I was glad I brought layers and something for my head. I had trouble anticipating Amy’s needs today and did some things differently than she expected (e.g., after scrubbing out Jackie’s litter box, I put in more cat litter than she wanted me to) or in a way that was substandard (e.g., I scrubbed and scrubbed and scrubbed Max’s water pail, but I could not get all of the yuck deposits out of it).

Amy also felt that Tom might have been agitated because I was nearby (he was pacing in his enclosure a lot; this was the first time that had happened), so I tried to minimize my presence near his enclosure. When we went down to the lion enclosure to change out water, Tonka charged while Amy was trying to fill one of the buckets. Although she was on the other side of a fence, it is scary and meant that she could not get the water changed. Again, she felt that it was me being there that caused him to charge. This left me wondering whether I should maybe not go out near the enclosures at all but just stick to the inside prep areas. Alternatively, perhaps I should only go near the bobcats’ enclosures. I do not want to be the cause of stress for any of the animals there.

I also had suggested that since it worked well when Suzy did it last week, we might give Sami her medication tucked into some meat (instead of grinding it to powder, making a paste, and hiding that in the meat). We tried it, and Sami ate around all of the pills. Amy was pretty unhappy about this, and I felt bad for having suggested it.

All of the animals’ behavior seemed different to me in the colder weather. Most were much more active (except for the servals and the caracal).

One of the two elderly bobcats (Casey and Midge) was still having runny poop despite having finished the five day course of antibiotics. While in that enclosure to clean up and change water, I got more leg rubs, and this time I also got a nice spray of pee on my pant leg courtesy of Midge. At least it didn’t stink like the fox pee.

One of the vet tech volunteers was out today to give several of the animals vaccinations. They were able to get Max’s vaccinations administered with no trouble (Steve went in to help calm each cat while the vet tech—I can’t remember her name—did the shots). They had to give up on Millie’s for the day, though, because she was too wound up.

I am really hoping that things go smoother next week and that I can better live up to Amy’s expectations.

**Wednesday, 17 Oct 2018, 10:15 a.m.–5:10 p.m.**

Things went MUCH smoother today. We did have a hiccup with the food for Casey and Midge as there was only one package of turkey in the fridge for them; thankfully, Jim showed up with
more as we were debating what else to give them. One of them still has runny poop, so they are confined to a poultry diet. We also noticed that their water was down by half when we went to feed them mid-morning. Later in the day, we noticed Midge drinking and drinking and drinking. She drank for a significant amount of time from both water pails. It’s probably indicative of kidney failure.

Lakota took his ProDen meatball without batting and eyelash today, though Kiowa was having none of it. The foxes ate well, as did everyone else, really. The weather was lovely, and everyone was up and around.

The tigers were very interested in all of the activity near their area. Steve, Jim, and James worked all day on pouring concrete to reroute tours around the medical building instead of through it. This should make tours less disruptive to work (including food prep and construction) in the medical building, although it does pose a challenge to maintaining Kenya’s (serval) privacy. Her enclosure will now be adjacent to where tours will come through, and she is fairly private. One of the current ideas involves frosting the window facing the new tour route so that light comes in but people walking by don’t see her and feel compelled to tap on her window.

Suzy and Amy were both very pleased to see that Bob and Willow were napping together in their house in their enclosure. They were moved into their current (larger) enclosure several months ago, and since that time, they had not been spending much time together. In their old enclosure, they would frequently cuddle. This was the first time anyone had seen them back to cuddling in the new enclosure, which was taken as a good sign that they were finally feeling more comfortable in the new space.

Shanta (lioness) was initially very uninterested in her “treat” (a chunk of meat containing her daily dose of Cosequin). It took a lot of calling and coaxing on Amy’s part to get her to finally come and get it. That’s a departure from her normal behavior. Thankfully, Tonka was utterly uninterested in our presence today.

Steve made sure to take time at the end of the day’s cement project work to spend time with each individual tiger. They make all kinds of expressive vocalizations (especially Olivia) that they only make when Steve is around. It’s really something to see. They all very clearly crave his attention.

There was some disagreement between Amy and Suzy over whether to note Midge’s drinking behavior in the food log. Suzy felt that everyone already knows that Midge is old and is probably in kidney failure, but Amy (and I) thought it should be noted nonetheless. Ultimately, Amy decided to add it to the log.

**Saturday, 20 Oct 2018, 9:40 a.m.–1:30 p.m.**
The weekends are so much more chaotic than Wednesdays! Small cat prep and feeding was more or less done(!) by the time I got there at 9:40. Noah and Adriel were working on the foxes and wolves. Cammy had him hand that over to Adriel and I once I arrived. There was discussion of the best way to hide the ProDen, and Jim joined the conversation to say that the ProDen was
being totally reevaluated because the vet is not seeing any impact on their dental health. The vet is working on a new strategy for them. Apparently he’d been out late in the week to check on Lakota, who was walking with a strange gait. They discovered that his toenails were so long that they were splaying his toes, so they had to sedate him and cut them back (he does not tolerate this while awake, apparently). During the sedation, the vet was able to get a good look at his teeth and decided that they need to try something else.

We then moved on to prepping food for Tom and Voodoo (there had been some miscommunication wherein we thought Jim had said he’d already done it; it turned out he’d done Boris’). We moved on to large cat prep, which was a major change of pace for me. With the tigers all generally getting close to or more than 10 pounds of meat, it takes some significant quantities to fill their prep bins. Pork was VERY low for the week, as was beef, so they mostly received poultry for the weekend feedings. There was one nice pork shoulder that Steve and Eric thought could go to one of the large male tigers. A while into the prep, Eric came back in and changed his mind on who should get it, moving it from Kimar to Mohan’s bin, and in that change, Adriel and I confused ourselves on whether Mohan was feeding high or low for the day. We should have written it down when we checked with Steve at the start of prep! Big lesson for the day: WRITE IT DOWN. We caught the mistake when we were doing supplements and fixed it, but we came close to accidentally bumping up Mohan’s bin by a few pounds. I’m sure that he wouldn’t have minded, but Steve definitely would have.

In prepping their food and working on supplements, Jim overheard us talking about amounts and came over to check the amounts we were using. This was when we discovered that different people were interpreting the spreadsheet differently. What Eric told us didn’t jive with what Jim was saying, and none of that matched what Amy has been doing on Wednesdays. We finally got a clarification on that, so it’s probably ultimately good that two relative newbies (me and Adriel) were doing it for Jim to feel like he should listen and double check. The result is apparently going to be a regrouping on feeding and supplementing protocols to make sure everyone is following the spreadsheet the way it’s meant to be followed. Jim emphasized that he will never, ever tire of answering the same question over and over again and he would rather people ask repeatedly than mess something up.

**Wednesday, 24 Oct 2018, 10:10 a.m.–4:30 p.m.**

Amy arrived a bit earlier than usual, so the north cats were already fed by the time I arrived. She did mention that Cammy had talked to her about the vitamins, which were now much more clearly marked.

The wolves are still on ProDen for the time being until the vet comes up with an alternative, and we distributed it among all of their meatballs—they didn’t want any of them, of course.

Feeding and clean up went quite quickly overall. Either Casey or Midge is still having some runny poop, which we made note of. One of the foxes also seemed to have a somewhat runny poop as well. I’m told that I apparently have a pretty good eye for finding all the poop in an enclosure. Too bad that is not a marketable skill.
Tonka let Amy refill their water with no complaints, which was nice.

Millie was completely uninterested in eating for us; Jim encouraged us to try putting the food in a dish instead of her food slot or on a rock and then to just leave the enclosure. Even then, she didn’t eat much.

The new walkway is done, and work on Kenya’s enclosure and new window was in full swing, as was work on Voodoo’s new den (radiant heat, lots of insulation, a window, and a feeding window… very swank!). There’s some concern about how Kenya will adjust to having higher visibility to visitors as she is somewhat private.

Toward the end of the day, we went in to say hello to Casey and Midge. At first, they were fairly aloof and uninterested, but then they came over to check out Amy’s and my shoes. While we were talking about some aspects of their enclosure, I felt something on my leg and looked down to discover Casey hosing down my leg. He did it a second time, too. Not to be outdone, Midge moved into position, so I quickly moved my leg out of the way. Amy cautioned me that while that’s instinct, I should be careful to avoid sudden movements around any of the cats.

Most of the cats are now rapidly growing in their winter coats. They all still very much appreciate having towels, blankets, and/or straw in their dens. With the abundant sunshine today, they also all spent a good deal of time soaking in the sun.

**Saturday, 27 Oct 2018, 9:50 a.m.–1:10 p.m.**

Today was the first day of the two-day Prowl-o-ween event. Food had been prepped and fed before I arrived just before 10, so there wasn’t much to do on that front (and space was limited as most of the medical building, which is where we prep the food, had been transformed into a haunted house). Amy and I did go to collect dishes from Casey and Midge. Casey was enjoying fresh sod and beautiful, balmy sunshine while Midge took a nap on her platform. When Casey decided to get up, I did note that he seemed very lost without Midge right there. Suzy and Amy have mentioned that he depends on her, and I hadn’t seen him without her until today. It was a little disconcerting. We also watched from a distance as Jim tried to soothe Tom (the cougar), who was showing some signs of stress due to all the activity. Jim and Tom have a special bond, and Jim is usually able to help calm Tom down.

Guests started pouring in at 11 a.m. when the event started. Amy and I were on duty to circulate and make sure that volunteers at the various stations had everything they needed and to cover for them when they needed breaks. When we got down to the lions’ area, it was clear that Tonka was fixated on Kimar, who had the run of the tiger habitat (Kimar was getting some extended time there because he’s had some cracking/tenderness of his paw pads). Tonka and Kimar are sort of nemeses, and when Kimar is in the habitat, Tonka is pretty much solely focused on making sure that Kimar does not get anywhere near his territory. Steve went down to the enclosure to see if he could get Tonka to divert his attention from Kimar, and while Shanta was happy to be showered with love, Tonka was completely uninterested. Steve decided that it might be better to move Kimar back into his enclosure and let one of the other tigers (Sundari) have run of the
habitat instead. Tonka still didn’t pay much attention to all of the people, though Shanta seemed fairly interested in the steady stream of people.

Amy and I rotated in to cover the wolf enclosure and later the fox enclosure so that those volunteers could take a break. Visitors were very interested in whether the wolves howl much, how old they are, and what they eat. At the fox enclosure, the popular visitor questions involved how Cedar Cove came to have an arctic fox and a red fox, what they eat, and whether they are friendly. It was really rewarding to interact with the visitors, which is not something I really get to do when I’m there on Wednesdays.

Around 1:30, my family arrived and I switched over from service-learning mode to visitor mode. It was interesting and fun to spend some time there as a visitor (and with people who had never been there before). We did get to see Voodoo come over to say hello to Suzy, who was stationed at his enclosure (he is her favorite cat and she is probably his favorite human). He then promptly turned around, sprayed her (including her Halloween costume—she was dressed as a voodoo doll in honor of Voodoo), and went back to lie down in a sunny spot.

Wednesday, 31 Oct 2018, 10:30 a.m.–4:30 p.m.
Almost everyone was very hungry today! Even Millie ate her food right after Amy brought it into her enclosure. Tom was nervous about two people (or me specifically?) being nearby during his feeding, so I stepped away while Amy fed him. Even the wolves ate well… they ate all their meatballs for once plus two of the four chicken legs.

Kimar was back in the habitat today, so Tonka was focused on him again. Amy brought him a little treat to go with the Cosequin meat we brought down for Shanta. While I was changing the foxes’ water and Amy was giving Shanta her Cosequin, I noticed Huxley playing with something—he had caught and killed a shrew and was having a lot of fun tossing it into the air and pouncing on it.

Boris was his picky self and ate very little of his pork or beef. Steve said he would try to feed him the rest this evening. Voodoo was also slower to eat his meat today, which seemed unusual.

Clean up went quite fast today. There have been some temperature issues in the coatis’ den, so we checked that while cleaning their enclosure (it had been over 90 degrees at some point at the end of last week because the control was set on medium and we’d had nice weather). Getting the dens to a good temperature range is tricky with the fall temperature swings. We noticed that while the coatis didn’t seem to be eating much today (either chicken or omnivore biscuits), they had pooped up a storm. Not sure what that’s about.

Tonka and Voodoo were both quite vocal today throughout the day. Voodoo’s calls almost sound like a large boar. Tonka roared periodically throughout the day.

Since feeding and cleaning went quickly, we were able to help with clearing the hedge apples that are EVERYWHERE right now. They make getting around the outside of the enclosures to
clean tricky, and it’s a constant battle. The ubiquitous black walnuts break down fairly readily, but the hedge apples do not and are too big to just leave lying around.

**Wednesday, 7 Nov 2018, 10:30 a.m.–4:30 p.m.**
It was fairly cold and crisp today, so many of the cats were spending time in their dens. I had the opportunity to feed Kenya (serval); she takes her meat gently, so she is a good first cat to feed through the bars. All of the cats are now being fed their middle food weights to help bulk them up for winter (which seems like it’s going to arrive early this year), and Steve came in to get an additional four-pound “bulk up snack” for Tonka, who is still recovering weight after his paw troubles earlier in the year. Tonka was very vocal again today and roared off and on all day.

There were still some issues today with getting dens to the right temperatures. The external temperature gauges don’t always match the reading from the heat sensor gun (and the reading on **that** can vary depending on where it’s pointed inside a den). There was some discussion about the best temperature for the coatis’ den. There was some thought that they had trouble growing in a denser winter coat because their den was too warm last year, so some of the volunteers are advocating for a gradual ramp up of the temperature to stimulate denser coat growth this year. Not everyone seems to be on the same page with that, though.

Voodoo does seem to LOVE his new den. The construction is better and more air tight to keep out the wind. It has a window so he can see out (and keepers can see in), and it has a sliding port so that it will be possible to feed him in his den when it gets even colder.

Steve was hard at work on the tigers’ habitat today. He’s hoping to get the habitat retooled ASAP so that two tigers can be in habitats (though not the same one) at once. Ultimately, the plan is to get it to four, but even two would be a big step up.

We did have another issue today with incomplete communication among volunteers there. Cammy texted me and asked that we add some straw to the foxes’ dens. She said that it had been moved and she didn’t know where it was, so Amy and I should ask. We did, and Jim pointed us to a trash can storing brome, which is different from straw. We texted Cammy to ask if the brome was okay, and she was very clear that we should not use brome, we should use straw. We finally found the straw and used it, but when Amy asked Jim what we should do with the open package, he wasn’t sure. He asked Steve, who was… not happy. He does not like the straw because it attracts mice and harbors mites, and he doesn’t want it used at the facility anymore. Jim threw the remainder out, but it’s clear that Cammy wasn’t told that straw was not being used anymore. While it’s difficult to get everyone together for meetings, it seems like it would be beneficial to have periodic meetings to review protocols including materials/foods to be used (or not), feeding amounts, supplement amounts, etc. so that everyone is on the same page.

**Saturday, 10 Nov 2018 9:45–1 p.m.**
Like other Saturdays, today was busy and chaotic. I worked with Suzy and Adriel today. We prepped and fed Midge and Casey, Sami, and Oscar and cleaned them as well. We also cleaned the foxes and checked water for them. It was a little crazy with three of us trying to work in the
prep space and make sure that we were coordinating on supplements—at one point, I failed to make it clear to Suzy that one of the bobcat’s supplements were already done, so she ended up putting them on again, so we had to throw out some of the meat and prep it again.

Disagreements over best practices continued. Cammy is still a proponent of using straw/hay in enclosures and had added some to Suni’s concrete as she had left a blood trail from a cracked spot on her paw. She was working on putting the remainder of the straw out of sight to try to minimize conflict over its use when I arrived.

**Wednesday, 14 Nov 2018 10 a.m.—4:50 p.m.**

There wasn’t too much out of the ordinary today. We did the food prep; Midge and Casey are still on poultry only, and the others are all on their regular diets. Because of the cold weather (it was in the 30s all day), most of the cats are on their mid weights for food. The wolves were actually hungry today and ate their meatballs and chicken. Kiowa managed a sneak attack lick to my face by rearing up and getting me through the bars while I was talking to Amy as she fed Lakota. Boris was very friendly today and wanted lots of attention (including petting). I obliged him a bit, though Eric cautioned that he can reach quickly and I should be careful about being too close to the bars. Duly noted.

Heated water bowls have been deployed for all of the small cats (the big cats will chew up the bowls and cords, so they cannot have them). It helps a lot—the buckets freeze up pretty quickly. During the cold weather, it’s important to have increased vigilance on water. The buckets are filled only halfway as the tops would freeze over and make a full bucket inaccessible anyway, so they are checked more regularly. The hoses are turned off and disconnected, so we put water in big five gallon buckets in the prep area sink and then carry them out to the enclosures.

**Wednesday, 21 Nov 2018 10:15 a.m.—3 p.m.**

Today was a nice day, and the animals were taking advantage of it for the most part. All of the cats took the opportunity to sunbathe and soak in some warmth, and even the coatis were out and about.

Most of the animals were hungry and happily devoured their food (even with the higher mid amount). Casey and Midge were a bit of an issue. Jim mentioned that Casey was a bit off and was sort of testy—he got Jim’s arm a bit the day before. We ended up topping off their food with a small amount (~1/8 lb each) of beef because it was handy, and that caused all sorts of mayhem. They are back on antibiotics for diarrhea and are supposed to still be limited to poultry. Amy knows they love beef, and we thought a bit would be okay (I didn’t stop her), so we gave them a bit. Neither of them ate more than half of their food, and Suzy discovered the beef, so word traveled quickly. Cammy texted to reiterate that they can only have poultry and that we must not give them any beef. I apologized and assured her that I would not let it happen again on my watch. She had mentioned that they had not had any runny poop over the weekend, but I did let her know that we found three (of six) poops runny when we cleaned their enclosure (which was when we brought in their food, so those runny poops were there before we gave them the beef).
That made things a bit tense between Amy and the other volunteers (Eric, Suzy, Jim) for the rest of the day. There’s not a lot of direct communication among people there, and that seems to cause a number of issues (e.g., Steve doesn’t like to tell Jim when he should fix something during construction of new dens, etc., and prefers to wait until Jim isn’t there and then fix it himself, which feeds into a cycle of Steve growing more frustrated with feeling like he’s constantly fixing Jim’s mistakes). From my outsider’s perspective, I do think that everyone’s heart is in the right place, and everyone genuinely cares about the animals. The trouble comes in when they disagree over the best way to do that (and the vet’s reluctance to referee certain issues does not help). All of the long-time volunteers are strong personalities, and conflict is not rare. At least everyone seems to share the same core goal of helping the animals instead of approaching things from a selfish standpoint, which cannot be said for every organization.

The other chores were uneventful. The lions let Amy fill their water, which was a nice change. The wolves could’ve cared less about their food. Millie was apparently famished and was climbing the enclosure door while Amy was trying to bring her food in. I did go into Bob and Willow’s enclosure for the first time today. They didn’t seem to notice either way, though they were interested in Amy and actually came to see her (they have been sleeping up on a perch for the last several Wednesdays during their cleaning). Boris had zero interest in coming down to eat, so we stashed his food back in the fridge for someone else to feed him later. Tom was very friendly today and was rolling around on his back. He seemed to especially appreciate the weather.

I left a bit earlier than usual today (3 p.m.) to work on Thanksgiving pies with my mom.

**Saturday, 24 November 2018, 9:10 a.m.–1 p.m.**

I was very glad to be able to come out today, because they were very short-handed. Cammy and I talked about Casey and Midge and their food, and things seem okay. She did express some concern that perhaps the acidic diarrhea was a problem with one of the food items (chicken) as a couple of the other cats, including one of the tigers, also had some issues recently (and that acidic poop REALLY smells and in a very unusual way). One of the concerns with that condition is that it can really degrade the tissue around the anus, which can be very painful for the cat and is hard for keepers to see/notice.

I worked with Carey (sp?) this morning as well as Eric and Suzy. I helped with the poop buckets for the first time. First time volunteers are often given this task as sort of a trial-by-fire thing, which is probably good. You have to be willing to deal with poop to help out at Cedar Cove—this isn’t “frolic with tigers” work. Saturday is when the big cat enclosures are cleaned out and the buckets are emptied in the “Jurassic poop pile” on the newly-acquired land. The previous land owner had been allowing the park to create a poop compost pile there, so it’s been composting for quite a while! The buckets have lime (double check) sprinkled on them, and then I followed Suzy with the full gorilla cart in tow out to the pile. When the weather is warm and hoses are hooked up, the buckets get a deep clean, but in the winter, they are kind of cleaned/deodorized with cedar chips. They actually aren’t as gross as I’d have imagined despite the lack of deep cleaning (mostly because everything is close to frozen in there).
I also helped with both small and large cat food prep and feeding. The foxes had a nice treat today with a combination of deer meat, hard boiled egg, roasted sweet potato, and roasted broccoli. On Wednesdays, Amy usually waits and gives them their veggies in the afternoon, but Eric mixed it all up, and they seemed to really like that.

New strategies for getting the wolves to eat their ProDen were also discussed (again)… the plan now is to try hiding it in all of the meatballs in smaller quantities.

Jai’s new den was being installed today, too. That is a huge job, but the timing couldn’t have been better with the impending weather. After I left, I found myself worrying a lot about how all the animals would fare in the winter storm. I’m sure they’ve endured more snow and lower temperatures, but many of them are fairly old, and no one wants to experience that. I also found myself worrying about Steve and B.J. having to do everything themselves in a horrible storm on Sunday. I am anxious to find out that everything went okay.

**Wednesday, 28 Nov 2018, 11 a.m.–3:15 p.m.**

Everybody made it through the blizzard just fine, which is a relief! It was cold today though not terrible. We did have to knock ice out of water buckets, but they all released fairly easily as they all had some liquid water underneath. The heated water bowls are immensely helpful for the animals that can have them.

Midge and Casey are back on antibiotics. They still have runny poop. Casey seemed agitated again.

Most of the cats were fairly active in the decent weather. Jai was out and very vocal all day. This was new to me, but Steve said she’s one of the most vocal of all the seven tigers. She seems to like her new den, too.

Bob and Willow also had some runny poop in their enclosure today, so hopefully that is a one off and not a new trend. We noted it in the log, though Eric said that it happens from time to time. Better to make a note of it, in my opinion, because then it’s easier to spot consistent trends.

Lakota actually ate fairly well for us today, but Kiowa was pretty uninterested. We also noted that there was a substantial (maybe 2+ lbs) amount of food left over from a previous feeding (it was frozen). Amy brought them a kibble treat when we went back down to bring additional water to the lions. Lakota dropped one, and Amy tried to point it out to him, and she narrowly avoided getting a strong nip. It was a good reminder that he can get aggressive about food.

We fed Voodoo in his den today, which he seemed to like. We could feel the heat radiating out when Amy opened the feeding window. He is definitely a warm-weather cat!

Jack and Molly are clearly spending more time in their den as well; there was almost no poop in the enclosure anywhere outside their den. Their den, on the other hand, was pretty gross. They really prefer to stay in there when it’s really cold, so even though today was relatively decent, the recent cold weather had them inside more often.
The foxes have a new sort of screen thanks to Eric. He wove hardy grass/bamboo stalks into the wire frame of one side of the enclosure to give them a visual break from seeing the lions all the time. I’m sure Huxley and Fin can still smell and hear them very well, but not having to see them might be helpful. Foxes are skittish by nature, and these two are extra nervous and keep a close eye on where the lions are and what they’re doing it. The location of their enclosure is less than ideal.

Tom was in a very playful mood today, which I haven’t really seen before. He often purrs quite loudly, but today he was also rolling around on his back and batting at his pumpkin. He was really relaxed, which was nice to see for a change.

**Wednesday, 5 Dec 2018, 9:50 a.m.–3:10 p.m.**
A nice day was a welcome break from the cold. We were somewhat short handed today as Suzie was out, so Amy and I fed all the animals that are fed daily and cleaned all of their enclosures. Despite coming off the antibiotic, someone in Midge and Casey’s enclosure is still having runny, very smelly poop. Everyone is hopeful that Eric caught it on the trail cam this time.

Tonka gave us all kinds of trouble when Amy tried to refill one of their water pails. He finally was distracted by Shanta long enough for Amy to fill it, but at the end, he realized what she was doing and charged the gate, which is very intimidating. Journey also gave Amy a lot of trouble when she tried to refill her water.

I had the chance to feed Kenya today, and I gave Voodoo a little treat (distraction) so that Amy could close the gate and cut him off from his den so she could get into it and change out his towels. He seemed sort of grumpy… probably because Suzie wasn’t there today (they are buddies).

The foxes all definitely have their winter coats in now. They look so much bigger than they did over the summer, and Fin has gone from mostly gray to totally white. She looks like a ridiculous puffball.

Jim tried offering Boris a chicken thigh yesterday, and he ate it for him, so we tried it today, and he loved it! It will be a nice change up for him, which is good as he tends to be very picky. There’s some disagreement over whether he should continue to be given small pieces vs larger chunks of meat that he has to chew more. Steve and BJ feel that he’s too spoiled and should be given larger pieces (and not hand fed so much), but Cammy worries that then he won’t eat. For now, we continue to give him smaller pieces (except for the whole bone-in chicken thigh).

**Sunday, 9 Dec 2018, 9:40 a.m.–12:10 p.m.**
Tons of volunteers today! I was teamed up with Suzie and helped clean the north cats and deal with the poop buckets. Because there were so many volunteers, Cammy suggested I head out at noon.
Wednesday, 12 Dec 2018, 10:20 a.m.–4:00 p.m.
I got to feed Boris today! He took the food so gently. He also spent a while licking my palm later in the day… it was neat to feel his rough tongue and have the chance to pet him a bit. Nice weather today. Casey and Midge are now on Karbo (after Jim was finally able to find and purchase a 1/3 tsp measuring spoon) to see if that helps with the runny stools.

Wednesday, 19 Dec 2018, 10:15 a.m.–4:30 p.m.
Today I fed both Kenya and Boris. The Karbo seems to be having a very positive impact for Casey and Midge—no runny poop today! Some of it still smells acidic, but at least there seems to be some improvement.

Summary Evaluation and Pedagogical Implications

Engaging in service-learning (SL) at Cedar Cove Feline Conservancy and Education Center was an amazing and challenging experience that spurred me to grow both intellectually and personally. While I anticipated this in a general sense, it was impossible to predict all of the specific ways in which I would be fulfilled and challenged. I expected to enjoy working around the animals, and I did; I didn’t expect that spending an entire day working outside every week would become so important to me—I crave that outside time now regardless of the weather. I expected to be challenged by performing physical work outside in any and all weather conditions; I didn't expect that navigating personalities and communication issues would be such a large component of the work. I expected that I would need to be adaptable and ready to solve problems; I didn’t expect that this might include trying new strategies every week to get wolves to actually eat their dental supplement or working the problem of removing the stench of fox urine from my hoodie. To me, this is one of the core experiences and benefits of SL work—each day brings new, unpredictable challenges and opportunities that cannot be replicated in a classroom setting.

At the beginning of my sabbatical, I had planned to complete 40 hours of SL. I ended up completing more than 100 hours. This was a much larger commitment than anticipated, and that was my choice. It became impossible to not look forward to another Wednesday working at the park. I also felt that they had invested so much time and energy into training me that the least I could do would be to give back as much as possible in time and effort. I plan to continue to volunteer there (though on a much more limited basis now that my sabbatical has ended) for the foreseeable future. Each day that I was there, I saw different things that enable me to better prepare and advise students in my classes who choose to complete SL contracts at Cedar Cove.

One of the biggest elements for which I need to prepare my students is the constant, critical need for vigilance about safety. Regardless of whether they were raised in captivity, these animals are all wild animals. They are not domesticated in any sense of the word. Every single animal in the park, including the coatis and foxes, are capable of inflicting painful injury. Many are also capable of killing and would not hesitate to do so. I am reminded of this every time I am there. Although the risks are minimized through careful adherence to the park’s protocols, following
protocols is essential. Sound judgment, attention to detail, and mental focus are essential components of this.

Another important element is the importance of keeping the animals’ well being as the primary concern (after safety). It is always better to verify protocols or information with a third party if a student is concerned about instructions being given to him/her by his/her partner volunteer, especially if they conflict with written directions or posted protocols. Students also need to realize that helping the animals might involve little direct contact on a given day or with a particular individual animal. It’s important to respect the nutritional needs of the animals. They all eat meat, and students performing SL need to be okay with prepping and feeding meat to the animals. Students also need to make sure that they feed according to the guidelines. Many people tend to want to show animals love via food, but this leads to weight gain in animals, especially those that are confined as these animals are.

Cedar Cove offers a rich diversity of course-related concepts to explore first hand. Having the opportunity to observe and practically apply these concepts first hand should provide students with a jumping off point to begin thinking like a biologist to formulate their own questions about these topics—indeed, after having completed SL myself, I firmly believe that this is the single most valuable and desired outcome for a SL contract in my courses. E.g., some of the animals defecate all over their enclosures, while others have a particular spot that they always go in. Thinking like a biologist, a student might wonder why this is the case and then begin to link this behavior to their behavior in the wild—some species use scat to mark territory and thus scatter it (or just don’t pay attention to it at all), while others tend to have a specific “latrine” spot.

Other outcomes focus more specifically on course concepts but are still the raw materials for this meta-outcome of thinking like a biologist. These concepts include (but are not necessarily limited to) diet, nutrition, and digestion; parasites; integument; behavior; and injuries and alterations. Although I’ve been teaching concepts such as these for years, I still learned new things about—and new appreciation for—them through my SL experiences at Cedar Cove. Personally, seeing the animals’ coats change through fall and into winter was incredibly impactful. I’ve read and taught about integument for years, and while I’ve had pets that shed in spring and fall, I’d never previously witnessed the change of an arctic fox’s coat from summer’s silvery-gray to the voluminous, puffy white of winter. The red fox, too, looked so much larger as his winter coat came in. Similarly, having the opportunity to feel the guard hair and underhair of a gray wolf or bobcat or Eurasian lynx—or hear the raw sounds as an African leopard or mountain lion crunches through bone with ease—cannot be communicated through words in a textbook.

I eagerly anticipate that students who opt to complete a SL contract at Cedar Cove for one of my courses will have similarly impactful experiences while contributing to the welfare of animals that have, through no fault of their own, ended up captive in Kansas. They will come away from the experience with personal, intimate knowledge of the course concepts and will have engaged in thinking like a biologist.
Cedar Cove Feline Conservatory and Education Center: Service-learning summary white paper

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Introduction
Cedar Cove Feline Conservatory and Education Center in Louisburg, Kansas, offers animal-oriented students in JCCC’s BIOL 127: General Zoology and BIOL 150: Biology of Organisms a unique and rich opportunity to perform service-learning. Students will be able to directly experience course concepts first hand while improving the lives of the center’s animals and educating the public about conservation and sustainability. There are caveats, however, of which students need to be aware. This summary white paper outlines these caveats so expectations are explicit and students are prepared to contribute safely and effectively while learning about these animals. This white paper also outlines the pedagogical opportunities via participation in service-learning at Cedar Cove.

The Caveats

These are wild animals.
All of the animals at Cedar Cove are capable of injuring or killing humans. While all of them have a history of extensive contact with humans, they are still wild and unpredictable. They are not domesticated and should not be trusted. Constant vigilance about personal safety is critical. Students should be aware of their proximity to enclosures and the location of the animal(s) within nearby enclosures at all times. Students should enter keeper areas only when cleared to do so by the volunteer coordinator.

Even without claws, Tonka could easily kill you and would not hesitate to do so.
The welfare of the animals is the primary concern.
While the opportunity to work closely with a variety of cats (and other animals) is incredibly rewarding, it’s important to remember that the overriding concern is always for the animals’ welfare. This means that some days may not involve much “direct” contact with the animals themselves—the majority of a SL period on a given day might be spent on food prep, because food, water, and clean shelter are critical to the animals’ well being.

The animals, like people, each have a distinct personality with particular likes and dislikes. Some individuals may dislike members of the same sex (e.g., many of the female tigers generally dislike women) or certain people (e.g., Tom, the cougar, is extremely agitated by the presence of certain long-time volunteers, perhaps because they remind him of someone from his life before Cedar Cove). Students should be sensitive to the animals’ needs and preferences, and if it’s clear that a particular animal is upset by his/her presence, the student should minimize his/her presence near that animal’s enclosure. Minimizing stress is a major factor in these animals’ welfare, and it should be prioritized.

The regular volunteers at Cedar Cove comprise a mix of individuals with strong personalities. All of them share the core goal of providing the best life for the animals in their care, but they do not always agree on how best to achieve that goal. Pleasing, or keeping peace with, a particular person is never as important as prioritizing the welfare of the animals. Students should avoid getting drawn into disagreements over care and should follow the protocols given by the volunteer coordinator.

This is dirty work, and it happens in all weather conditions.
Caring for the animals is year-round work, and much or most of the work is performed outside. It may be in the 90s with high humidity, it may be a down pour, it may be 20 degrees with a 30 mph wind… the animals still need food, water and a clean environment. Students need to be prepared to work outside in potentially uncomfortable conditions. Dressing for the weather is a must.

Similarly, students need to be prepared to get dirty and should dress appropriately. Gloves are provided, but mud, fecal material, urine, and blood/meat juice (from food prep) regularly end up on shoes and clothing. Cleaning up animal poop is a big part of the job, and there is no room to be squeamish about it. It may be runny poop. It may smell worse than anything a student has smelled before. Students have to get over it and just do it.

This is also very physical work. Students will be cutting meat, lifting buckets of water, breaking ice out of water bowls, bending over to pick up poop, pulling cartloads of materials, walking from enclosure to enclosure, etc.

There is a whole lot of poop involved.
These animals are all carnivores or omnivores.

A major portion of the work at Cedar Cove involves preparing the animals’ food, and all of them eat meat (even the coatis). This includes poultry, beef, pork, deer, rabbit, and occasionally other game. In particular, deer and rabbit meat will be clearly identifiable—i.e., an obvious chunk of deer with fur attached or a whole (dead) juvenile rabbit may be fed to the cats. Students need to be prepared to prepare these and other meats even if the student is vegetarian/vegan.


Many volunteers contribute to the care of these animals. In order to coordinate these efforts, careful and copious documentation is critical. In order to spot trends (e.g., a particular individual is having persistent diarrhea or isn’t eating normally, etc.), it is essential that everything is noted in the food log. It is also good practice to verbally communicate unusual behavior or circumstances to the volunteer coordinator and other volunteers. When passing this information along, another volunteer may say something like, “yeah, that happens sometimes;” this does NOT mean that it shouldn’t be noted in writing. When in doubt, write it in the food log.

Double and triple check instructions.

There is a huge amount of detailed information to keep track of during the course of a shift at the park. The long-time volunteers have done a lot of work to get this information into easily accessible, written format posted in multiple places. Students should always check for new notes or instructions when they arrive, and they should refer back to written instructions, protocols, amounts, etc. often. Animals go onto or off of medications or supplements with some regularity, so it’s vital to make sure that things haven’t changed since the student’s last shift.

Feeding levels (low, mid, high) for the big cats can and do change from feeding to feeding, so when a student is doing food prep, a verbal check with Steve (the park director) is always necessary at the beginning of big cat food prep.
The spreadsheet outlining feeding amounts, supplement amounts, etc. should be referred to repeatedly during the food prep process. There’s a large amount of food prep each day, and it can start to run together as people try to work quickly and efficiently. It’s always preferable to pause a moment to verify the correct amount of Cosequin, for example, rather than assuming that it’s a particular amount and then under or overdosing an animal.

If a student is responsible for pulling the meat out of the refrigerator, he or she should check dates on the packages and always use the oldest meat first. If the meat looks or smells bad, he or she should verify this with another volunteer and then dispose of it.

When uncertain about something, it’s always better to ask. The other volunteers don’t mind questions.

Communication is vital.
If a student is going to be late or unable to work on a particular day, it’s crucial that he or she contact the volunteer coordinator as soon as possible. The park runs on volunteers—Steve is the only paid employee as park director—and the animals need care one way or another. The more lead time the volunteer coordinator has to cover short-handed days, the better care the animals receive.

Clear communication about things observed during a shift is also important (see “Document, document, document” above).

There are many zoology concepts to investigate at Cedar Cove.
Students should always be open to observing and thinking about biology while at the park; one of the most valuable aspects of experiential learning is that unpredictable events or circumstances can present unique opportunities for seeing course concepts in action if students are looking for them.
A wide variety of course topics/concepts are encountered regularly at Cedar Cove. These include, but are not limited to, the following:

- **Diet, nutrition, and digestion.** What are the different species eating? How much do the animals eat relative to their body weight? How does the amount fed fluctuate seasonally? What supplements do different individuals receive and why? How does their captive diet differ from what they would eat in the wild? How often do they defecate and how much? Do they tend to use a single “latrine” location in the enclosure, or do they poop all over?

- **Parasites.** For what parasites are the animals given preventive treatment? How often do they test positive for parasites?

- **Integument.** What color patterns do the different animals have, and how do these relate to their native habitats and trophic positions? How do the animals’ coats change seasonally? What are the different roles of the guard hairs vs the undercoat? What skin conditions or concerns do certain individuals have?

- **Behavior.** What time(s) of day are the animals most active? How does weather affect activity levels, and does this tend to correlate with the animals’ native habitat conditions (e.g., do cats native to hot environments spend relatively more time in their dens than temperate species when it’s cold)? How much do individuals interact or notice each other, and are these positive or negative interactions? How do potential prey species (e.g., foxes) react to being near predatory species (e.g., lions)? What are the different ways in which the animals communicate, and which rely more or less on certain senses for communication? What are the things used for enrichment, and how do the animals react to these?

- **Injuries and alterations.** Several of the animals have injuries, disabilities, or alterations. What injuries/disabilities/alterations does each individual have, and how are these managed? Which are the product of aging vs treatment by previous owners?

**Conclusion**

The service-learning experience at Cedar Cove can be hugely rewarding, offering the chance for both intellectual and personal enrichment and fulfillment. Students need to be prepared for challenging conditions, be detail-oriented and thorough, and show constant vigilance with regard to the animals’ needs and their innate wild nature.

Boris is waiting to meet new students.