

Engagement

**Inquiry
and
Investigation**

Definition

Resolution

Debriefing

PROBLEM STUDIES FOR ONE

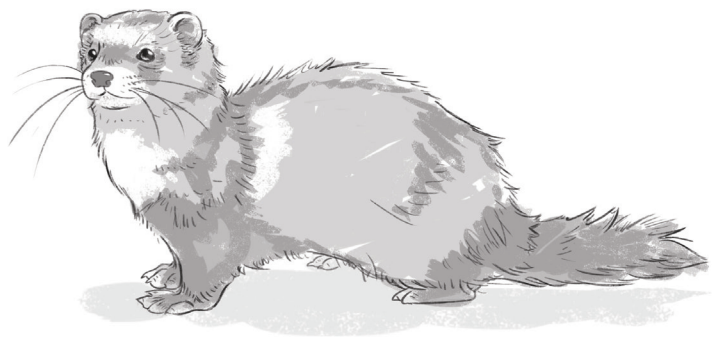
Ferret Ecology

A Problem about Endangered
Species and Animal Ecosystems

Parent Manual

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Unionville, New York

Problem Narrative:

The Storyline for *Ferret Ecology*

Ideally, the direction of a problem study unit is decided through the questions a child asks. To some extent, this is made manageable by the structure of the opening scenario presented during Problem Engagement. The opening scenario is carefully designed to point the child in the direction of some predictable questions. For example, it would be hard to avoid asking why the black-footed ferret is endangered or what would constitute an ideal habitat. The narrative that follows and the lesson plans in this unit respond to these more predictable questions and address other desirable learning outcomes. They also provide a helpful guide for parents new to inquiry-based instruction. Parents who are familiar with inquiry-based learning are encouraged to use this unit as a framework, selecting lessons that fit the child's questions (and, as above, many should fit) and adding other lessons to address other questions.

Problem Engagement

Your child is in the stakeholder role of a member of the Black-Footed Ferret Recovery Reintroduction Team (BFFRRT), a group of scientists tasked with creating a model habitat for the black-footed ferret using Fort Collins, Colorado, as a test site. The team receives a memo from their boss complaining that interest in the black-footed ferret is waning. The memo makes reference to a newspaper article about the black-footed ferret that validates those fears. (While your child will probably will not recognize it yet, a majority of the other articles in the newspaper also connect to the problem of reintroducing black-footed ferrets, making this newspaper a useful touchstone throughout the unit.) Your child learns that he or she must research the critical elements necessary for successful reintroduction of black-footed ferrets, create a model for reintroduction, and give a presentation to members of the BFFRRT Project Oversight Committee.

Questions Your Child Should Ask

- Why do black-footed ferrets need to be reintroduced?
- What is the Black-Footed Ferret Recovery Reintroduction Team, and what is its goal?
- What are the critical habitat elements needed for successful reintroduction?
- What, if anything, needs to change about the test site before reintroduction can begin?
- What needs to be considered to account for possible changes to the black-footed ferret as a result of the genetic bottleneck?
- What needs to be included in the model?

Inquiry and Investigation

Your child researches the various learning issues associated with the problem. He or she learns why the black-footed ferret is listed as an endangered species, the efforts currently under way to reclaim the species, and attempts to reintroduce the black-footed ferret into its native habitat in the shortgrass prairie. As this work proceeds, your child gains greater understanding of the complexity of this undertaking.

The discovery of the need for a substantial prairie dog population opens the door to one of the most important dimensions of the problem. Prairie dogs are the primary form of sustenance for a black-footed ferret; a single ferret eats approximately 100 prairie dogs a year. The black-footed ferret's survival is therefore directly linked to the availability of a thriving prairie dog population. Your child completes a

math exercise estimating the number of prairie dogs and the acreage required to support the recovering black-footed ferret population.

As the unit continues, your child completes several activities designed to help him or her understand the critical habitat elements necessary for the black-footed ferret's survival, and also the impact of the multiple threats to the black-footed ferret. Your child will learn to use the concept of *systems* to understand the interrelated nature of the different elements of the problem.

All of this information comes from a combination of independent research and more formally structured lessons that your child completes on his or her own or with your guidance.

Questions Your Child Should Ask

- What are the critical habitat elements needed for successful reintroduction?
- What, if anything, needs to change about the test site before reintroduction can begin?
- What needs to be considered to account for the fragility of the black-footed ferret?
- What impact does the genetic bottleneck have on successful reintroduction?
- What are other potential threats to the black-footed ferret?
- What needs to be included in the model?

Content Your Child Should Encounter

- The genetic bottleneck caused by the reduced number of black-footed ferrets could make them weaker.
- Despite years of effort, only a small percentage of black-footed ferrets survive after being released into the wild.
- Black-footed ferrets are more likely to survive if they are released when they are younger.
- The reintroduced black-footed ferrets do not travel more than a few miles for food.
- Evidence is emerging that the recovered black-footed ferrets have weakened immune systems, requiring easier access to food and greater protection from prey.
- Black-footed ferrets cannot survive without an ample population of prairie dogs.
- The prairie dog population was reduced by more than 90% as large ranches moved into the prairie.
- Prairie dog towns can be wiped out by bubonic plague, the same plague that wiped out a sizable portion of the European population in the 1340s. (Human treatments have improved since then, and in the rare instances when people contract plague today, they almost always survive.)
- Prairie dogs are a *keystone species*: many species are dependent on the prairie dog for survival, not just black-footed ferrets.
- Humans have negative attitudes toward prairie dogs. Prairie dogs are poisoned and hunted ("plinked") to get rid of them. Fear of catching the plague contributes to the negative attitudes.
- Pet dogs and cats can contract bubonic plague from a prairie dog.
- Cheatgrass is one of many non-native invasive grasses that are changing the composition of the shortgrass prairie (a biome), making the prairie more vulnerable to extreme and damaging wildfires.

Problem Definition

Your child examines the cause-and-effect relationships among critical elements of the problem. In the process, he or she narrows down the many issues uncovered during research to the core issues. As your child examines the core sources of the problem, he or she also identifies constraints in the problem that limit the solution options. In the process, he or she comes to recognize that the problem is as much about the prairie dog as it is about the black-footed ferret. Once your child has created a problem definition, he or she responds to a memo from the team's boss asking for a progress report.

Questions Your Child Should Ask

- Which aspect(s) of the problem are immediately responsible for black-footed ferrets having trouble surviving?
- What makes (x) the immediate cause?
- If (the genetic bottleneck) is immediately responsible for the black-footed ferret having a fragile genetic makeup, which aspect is immediately responsible for (the bottleneck)?

Content Your Child Should Encounter

- Black-footed ferret survival is dependent on prairie dog survival.
- Black-footed ferrets need prairie dogs living close together—it's not enough to have a large number of prairie dogs if they are spread too far apart.
- The cheatgrass invasion is due in part to a fragile prairie biome. The biome is fragile in part because of overgrazing.
- While cattle grazing contributes to the problem, it is also integral to the economy of the region.
- A few different issues are at the heart of the problem, including overuse of land by humans, near destruction of the prairie dog population, and drought.

Problem Resolution

Another memo from the boss arrives thanking the team members for their work to date and urging them to turn their attention to building the model of a suitable habitat. Your child conducts some last-minute research and spends time constructing his or her model and presentation. He or she will synthesize all of the information learned throughout the problem, taking into account the needs of the black-footed ferret, as well as the concerns of the ranchers and any other constraints that may exist. Your child may need to develop a public relations plan to persuade local landowners to accept the model. At the end of these lessons, your child will present the finished model to the BFFRRT Project Oversight Committee.

Questions Your Child Should Ask

- What are the critical habitat elements needed for successful reintroduction?
- What, if anything, needs to change about the test site before reintroduction can begin?
- What needs to be considered to account for the fragility of the black-footed ferret?
- What needs to be included in the model?

Problem Debriefing

Your child reviews what he or she has learned and reflects on the problem-solving process. A variety of activities are recommended for Problem Debriefing, including an analysis of the minutes of a real community meeting from Fort Collins that discusses issues involving the black-footed ferret and the prairie dog. Your child is encouraged to see the universality of the concepts and generalizations presented in the unit, especially the importance of balance and proportion in a system.






Problem Engagement

Black-Footed Ferret Recovery Reintroduction Team

Goals:

- Introduce your child to the problem.
- Help your child identify important questions.
- Develop issues on the Learning Issues Board.
- Prioritize learning issues.

Generalization: Elements of a system all must function correctly or the system will break down.

 Materials	 Problem Log	 Teacher Reference
<p>Included in Unit</p> <ul style="list-style-type: none">• Memo from Dr. Ladner• <i>The Fort Collins Coloradoan</i> newspaper• Learning Issues Board• Reflective Moment <p>Additional Materials</p> <ul style="list-style-type: none">• Map of Fort Collins region (optional)	<ul style="list-style-type: none">• Learning Issues Board• Reflective Moment	<ul style="list-style-type: none">• Sample Learning Issues Board

Summary:

Your child receives the opening scenario that introduces the problem. A memo arrives from Dr. Mitchell Ladner, the (fictitious) head of the U.S. Fish and Wildlife Service, addressed to the Black-Footed Ferret Recovery Reintroduction Team. In the memo, Dr. Ladner informs the team that public support for the black-footed ferret is diminishing, making improved progress imperative. As a member of the team, your child is urged to demonstrate the viability of a new reintroduction site for the black-footed ferret. He then completes the Learning Issues Board and establishes research priorities.

Notes: The memo from Dr. Ladner mentions an article in The Coloradoan newspaper. Your child might ask about the article; when he does, give him a copy of the newspaper. If he does not ask about the newspaper, do not give him a copy. This way, your child will learn that you will not automatically feed him the information he needs. Rather, he will only receive information when he asks the right questions. If he does not ask about the newspaper, leave a copy in a conspicuous but out-of-the-way place so that he will “discover” it.

The Coloradoan is filled with articles related to the problem, but it is unlikely that your child will understand the relevance of all of the articles at this stage of the problem. After he conducts his initial research, the relevance of the news articles will become apparent.

Your child will come up with many questions at this initial phase of the problem. Some of them will be directly relevant to the situation at hand; some will not. Do not stem the flow of his questions by judging them at this point. List everything. Later, when you ask your child to prioritize the questions,

the relevant questions will rise to the top of the list. Irrelevant or inconsequential questions will fall by the wayside as your child becomes further immersed in the problem.

Things to Do Before Class:

1. Read through the materials in the opening scenario, and consider what questions to ask to draw out issues directly associated with the problem.
2. Download and print the memo from Dr. Ladner and *The Coloradoan* newspaper.
3. Use the website resources listed at the end of the next lesson (Ferret Facts) and in Appendix B to prepare a webquest and/or folders of information that your child can use to begin to research.

Things to Do During Instruction:

1. Remind your child that for the next few weeks, he will be adopting the perspective of an adult biologist involved in an ongoing project. Inform him that you have an update from his boss. Give him the memo from Dr. Ladner, and have him read it. Ask him to use active reading skills (highlighting, underlining, making side notes) to mark up the memo.
2. If he asks for it, give your child a copy of *The Coloradoan* newspaper. Allow him to read through it, and encourage him to make notes about it in the margins or on the Notes page of his Problem Log.
3. Begin filling out the Learning Issues Board with your child. Ask him to distinguish between the information he knows, his hunches about what might be causing the problem, and the questions he needs to answer (see the Sample Learning Issues Board). If he fails to ask an important question, try to probe with a specific question, or as a last resort, add it to the Learning Issues list as something that you are curious to know.
4. Should your child request a copy of a map of Fort Collins, direct him to Google Maps or another internet mapping service, or consider displaying a map on a whiteboard or bulletin board.

Key Questions:

- *What seems to be your job? What's your role?*
- *What seems to be going on? Why is Dr. Ladner concerned?*
- *What terms in this memo need clarification?*
- *What information makes you think that... (i.e., something is wrong with the black-footed ferret)?*
- *What do you suppose your responsibilities are?*
- *What else in the memo makes you curious?*
- *What terms are unclear to you?*

5. After your child has finished listing learning issues, point out that there are too many questions to answer all at once. Ask him to select the three or four questions that need to be answered first in order to make progress toward a solution. (Choose four if one or two of the questions are straightforward or easy to answer, such as the definition of a word or information readily available in *The Coloradoan*.) Help your child distinguish between the questions he finds most interesting and the questions that should be answered first for the sake of solving the problem.

6. Help the your child develop a plan of action to find the answers to the high-priority questions. Encourage thinking that goes beyond reading articles on the internet as a means of conducting research. Prompt him to consider who he could interview, what visual resources he could use (including maps), or what other ways he could learn about the problem (visiting a museum or zoo, emailing a biologist, etc.).

Key Questions:

- *What three or four questions have to be answered first so that you can make good progress?*
- *How should you go about finding answers to these questions?*
- *Who could provide you with information?*
- *Where do scientists turn for answers to their questions?*
- *Where do they go to find out what is already known?*

7. Assign your child the first Reflective Moment in his Problem Log.

Department of the Interior
U.S. Fish and Wildlife Service

To: Black-Footed Ferret Recovery Reintroduction Team (BFFRRT)
From: Mitchell Ladner, U.S. Fish and Wildlife Service
Subject: Fort Collins Project

Progress on the reintroduction of the black-footed ferret into natural habitats is not moving quickly enough. Already there is media coverage suggesting that attempts to save the black-footed ferret are too expensive and too labor-intensive, given our minimal successes so far. Just look at the recent edition of *The Fort Collins Coloradoan*, and you'll see what I mean—the project was buried on page 4! Given the current strains on the economy, we need to make sure our efforts show decisive results.

Clearly something has to change. In the past we have been reactive—that is, we have responded to different problems as they have cropped up. I think it is important that we become proactive by anticipating potential problems and by creating a model of a feasible, functioning habitat that's suitable for the black-footed ferret and all other inhabitants.

We will use the Fort Collins, Colorado, region as the test site to develop our model habitat. Your job is to identify the different aspects of successful black-footed ferret reintroduction, paying particular attention to these questions:

1. How suitable is the natural habitat for black-footed ferret preservation? What, if anything, needs to change before we begin reintroduction?
2. What in particular needs to happen to the Fort Collins habitat to account for any changes the black-footed ferrets might experience as a result of the genetic bottleneck?

These questions should be enough to at least get you started, but remember, you may encounter other unexpected factors along the way. Keep track of these, and incorporate them into your model as appropriate. You will be presenting the model and findings to members of the BFFRRT Project Oversight Committee at its meeting in about two weeks.

I realize that this is a complex task, but I am confident that you will be successful. With continued effort, the black-footed ferret will be able to once again fill its niche in the prairie ecosystem.

Tuesday

August 3, 2010

Fort Collins Coloradoan

www.coloradoan.com

The Forecast

Sunny

High 98

Low 90

Fire Ravages McClintock Farm

BY TAMARA ROBBINS

Scorching temperatures and drought conditions created a recipe for disaster yesterday afternoon for one of Fort Collins's oldest established ranches. Ranch hands at McClintock Farm report that just before noon, they noticed thick, black smoke trailing up from the western edge of the property. Poudre Fire Authority, along with Union Colony Fire and Rescue, were dispatched and arrived on the scene within a matter of minutes. Firefighters worked tirelessly to control the conflagration,



Fire rages through the farm, leaving grazing areas blackened.

but weather conditions were not on their side. It took more than six hours to control the blaze, and when firefighters were finally able to extinguish it, more than 2,000 acres

of land had been blackened. Captain Anthony Ramirez stated, "We tried as best we could to contain the fire quickly, but with the heat and the abundance of cheatgrass,

we were fighting an uphill battle." Ranch owner Clive Murphy said that he was thankful for the efforts of "hard-working

See FIRE/Page A3

Plink, Poison, or Proliferate: What to Do about the Prairie Dog

BY ROSA ALVAREZ

For such a small creature, the prairie dog certainly has created quite a ruckus. The battle over what to do about the prairie dog is nothing new to the Fort Collins area. The debate has been plaguing local and federal officials for years. On one side of the argument are ranchers who

believe that prairie dogs are ruining the public land they rely on for grazing. On the other side are wildlife conservationists who assert that killing prairie dogs causes irreparable damage to the delicate prairie ecosystem. Will an understanding between the two parties ever be reached?

What Should Be Done?

At the center of this controversy is the disagreement on the best method and need for prairie dog management. Ranchers, hunters, and other parts of the general population believe that plinking

See DOG/Page A2

Juror's Award of Excellence Goes to Global Warming

BY WILLIAM LAWSON

Science and art merged beautifully this weekend at Colorado State University's annual Art and Science Exhibition. The exhibition, established less than a decade ago, is designed to celebrate the creativity of the CSU faculty, students, and staff and to explore

See EXCELLENCE/Page A2

Dog -FROM A1

(or shooting) and poisoning are the most effective and inexpensive ways to control the population. Ranchers like Ronald Fischer, owner of Mabel's Way Ranch, would just like the animals to go away. Fischer said, "These rodents are everywhere. They are eating up all the fields I use for cattle grazing, they are disease-ridden, and they are just plain disgusting. Do you know how many cows have broken their legs in the holes they leave? I don't care how they get rid of them—poisoning, hunting, whatever. I say the federal government should declare open season on them."

For as strongly as ranchers feel about ridding the prairie of prairie dogs, environmentalists feel just as strongly about preserving them. They contend that poisoning prairie dogs is not only



The debate on prairie dog population control rages on.

inhumane, but it also negatively impacts the surrounding species. Walter Hastings, a spokesperson for the Prairie Dog Coalition, said, "Whoever said that poisoning was a more humane method of

management is full of it. The poison causes suffering. It's beyond cruel." He went on to say that, "When coyotes, hawks, and other predators get hold of a poisoned prairie dog, they are also poisoned. The negative effects on the prairie ecosystem if the use of poison continues will be far-reaching."

Other opponents of lethal prairie dog management include wildlife preservationists endeavoring to recover the endangered black-footed ferret. Tanya Marks of the U.S. Fish and Wildlife Service commented, "If the federal government continues to sanction the destruction of prairie dogs, our efforts to reintroduce the black-footed ferret will be in vain."

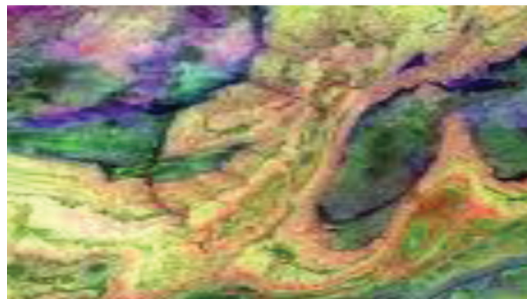
The Debate Continues

It is unlikely that this conflict will soon be resolved, but Larimer County is working with various federal agencies in an effort to revisit the current prairie dog management policies. A spokesperson for the county stated, "We continue to investigate every possible avenue. We are soliciting input from ranchers, the Prairie Dog Coalition, the Natural Areas Program, and all other interested parties as we work to resolve this issue."

Wildlife preservationist Addison Walker added, "I'm glad that the policies are being revisited. Let's just hope change doesn't come too late."

Excellence -FROM A1

the relationship between art and science. Each year dozens of entries are submitted, and eight awards are given. This year, senior Jake Milford's *Lost Treasure* was awarded the top prize for his interpretation of global warming effects on the prairie. Milford said that he was inspired by his love of the complexity of the prairie. "Every-



Curfman Gallery exhibit showcases marriage of art and science.

thing is so interconnected. Each creature is so reliant on the other. I wanted to capture the beauty of that relationship but also emphasize the

delicacy of it." He went on to say that "Everyone knows about the polar ice caps, but global warming affects us right here in our own prairie backyard, too." Award-winning entries will be displayed until the end of April at the CSU Curfman Gallery.

PHOTOS ON
COLORADOAN.COM



Beef Is Hit Hard

BY BILL HERRICK

The recession has affected countless industries over the last few years, and the beef industry is no exception. According to the National Cattlemen's Beef Association (NCBA), beef prices have been dropping steadily over the past few months, and the trend will continue for the foreseeable future. NCBA Spokesperson William Coker stated, "Last year we saw a slight increase in pricing, and we were optimistic that the trend would continue, but unfortunately we were wrong."



There are several well-known reasons for the plummeting prices, including the increasing price of oil and corn, but one less-known factor is the fight for cattle grazing land. Fort Collins Rancher Brevin McCoullough stated, "We are really struggling to provide high-quality beef. What people don't realize is that our herds are competing with other wildlife for food, and there just isn't enough to go around."

The primary food competitor for livestock is the black-tailed prairie dog. Ranchers have been claiming for years that the available grazing areas can't support both their cattle and these native creatures. McCoullough added, "Buyers want large animals. There is no money in selling underfed, thin cows."

NCBA members are thankful that the U.S. Fish and Wildlife Service recently revoked the prairie dogs' endangered species status but feel that the beef industry will still take time to recover. "I don't know why it took so long to realize that the prairie dog varmints aren't in any danger. We could poison or shoot them every day for ten years, and there would still be millions of them left," stated Coker. He added, "What the NCBA wants to do now is to come up with a plan to replenish our grazing land so that we don't have to sacrifice herd size in order to get the large cows we need to sell. It will take some time, but it's do-able if we can get rid of the prairie dogs."

Not everyone agrees with the NCBA's stance on prairie dogs. Wildlife preservationist Dr. Asha Bharwani commented, "It's important to remember that the prairie dog is a keystone to the prairie ecosystem. Instead of focusing simply on eradicating the prairie dog, we need to examine the problem as a whole. There are many other possible contributing factors to the decrease in forage for livestock—desertification and climate change, just to name a few." Dr. Bharwani added, "It is true that prairie dogs and cattle share the same space; however, there is some data to support the idea that while prairie dogs may reduce the quantity of forage, they actually improve the forage quality."

Unfortunately, it is unlikely that the prairie dog/rancher debate will be resolved soon. Until then, most can agree that measures need to be put in place to help the beef industry recover lost revenue.

McCoullough added, "I'm being hit pretty hard by these lower prices. I need something to be done soon, or I'll be in real trouble."

Fire -FROM A1

firefighters." When asked what he thought caused the blaze that destroyed almost half of his usable grazing land, Murphy lashed out and said, "I blame those darned prairie dogs. I've been saying for years that they are a threat to my

fields. Now look at what's happened. We have over 500 head of cattle and 100 horses, and now I have to figure out where they are going to graze."

Officials have several theories about what caused flames to ignite yesterday, and an investigation is under way.

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**Where Northern
Colorado moms meet:**

**Fort Collins, Loveland,
& Windsor**

Honey-Baked Ham Closes Down in Fort Collins, Greeley

BY COLORADOAN STAFF

The store with one primary product, ham, closed its Fort Collins and Greeley stores over the weekend, leaving Northern Colorado with no place to buy a spiral-cut honey-baked ham.

The Honey-Baked Ham Store and Café at 731 E. Harmony Road closed Sunday, and a sign on the door directs customers to the Honey-Baked Ham website, www.honeybakedham.com, to redeem gift cards or purchase products

online. The store at 3766-B W. 10th St., Greeley, closed Saturday.

It was not unusual for the Honey-Baked Ham store in Fort Collins to sell more than 2,000 hams at Easter, as customers flocked to the store to buy its specialty honey-

glazed, spiral-cut ham. The store is licensed with the city of Fort Collins to Jones-Montez Specialty Foods in Broomfield, owned by Carolyn Jones of Broomfield and Peter and Lila Montez of Johnstown. Phone calls to the Jones, the Montezes, and Honey-Baked Ham corporate offices were not returned by press time.

The Honey-Baked Ham company has about 400 stores nationwide, many of which are owned by franchisees.



Recovery Program in Danger

BY KIEFER DOLLINS

Officials from the National Black-Footed Ferret Conservation Center announced yesterday that the future of the Black-Footed Ferret Recovery Program is in question due to recent budget cuts. The Center, which is located just outside of Fort Collins and was completed in 2005, plays a vital role in attempting to successfully reintroduce now almost-extinct black-footed ferrets into their native prairie habitat. The U.S. Fish and Wildlife Service uses the Conservation Center as a staging ground for reintroducing ferret kits bred in captivity into the wild. “We have found that the



Budget issues threaten the Black-Footed Ferret Recovery Program.

reintroduction success rate is much higher if the kits undergo preconditioning,” stated federal wildlife

biologist Angela Kim. Preconditioning means that ferrets are introduced to elements of their natural habitat such as prairie dogs and prairie dog burrows before they are released into the wild. “Black-footed ferrets and prairie dogs have an amazingly interwoven relationship. It is important to introduce kits to the prairie dogs so that they learn their role as predator without the threat of predation,” added Kim. When asked to comment on the budget crisis, Center director Harold Ramirez stated, “We are extremely frustrated with the decision that has been made about our funding.

Saving the ferrets is paramount for the survival of the prairie ecosystem as we know it.” He also said, “We are pursuing other avenues of funding, such as our *Adopt a Ferret* program, but we are not optimistic that this will make up for the deficit in the long-term.”

Center biologist Elena Craven added, “We have been fighting for the black-footed ferret for more than sixty years, and we have seen more success in recent years than ever before. We can’t stop now.”

More information on the recovery program can be found at the Black-Footed Ferret Recovery Program website: www.blackfootedferret.org/index.htm.

There are plenty of numbers to ponder at hugely popular Colorado Marathon

BY SEAN DUFF

The Colorado Marathon, the most popular running race in Northern Colorado and one of the top events in the state, is all about numbers.

Lots of numbers.

2 - The number of days before the race.

3.1 - The distance, in miles, of the 5K race.

5 - The number of people on the race committee.

6.2 - The distance, in miles, of the 10K race.

9 - The anniversary of this year's race.

12 - The number of aid stations along the marathon course.

13.1 - The distance, in miles, of the half marathon.

20 - The percent of entrants who list a state other than Colorado on their entry form.

26.2 - The distance, in miles, of the marathon, which starts in the Poudre Canyon and ends in Old Town.

73 - The percent of entrants who list a city other than Fort Collins on their entry form.

94 - The number of people who bought a charity spot, with 100% of the entry fee going to charities.



Runners get ready for the 2009 Colorado Marathon. Registrations for this year's run are already filled.

300 - The number of volunteers on race day.

500 - Amount, in dollars, a runner gets for setting a course record.

1,000 - Amount, in dollars, a runner gets for setting a state record.

1,127 - The net elevation decrease, in feet, from the race's start to finish.

4,000 - The number of runners expected in the marathon, half marathon, 10K, and 5K.



The Colorado Marathon was voted most scenic route in 2008.

4,981 - The elevation, in feet, at the end of the race.

6,108 - The elevation, in feet, at the start of the race.

23,500 - Amount, in dollars, raised

from charity spots that will go to numerous nonprofits, including high school cross country teams, the Harmony School, the Boys and Girls Club, and more.

"What I think is one of the most awesome things is the charity spots," race director Brian Cathcart said Thursday.

"We sold out 94 of those in one week. Some races give the difference between a charity entry fee and a regular entry fee to charity; 100% of our charity fees go to charities."

350,000 to 400,000 - Amount, in dollars, that runners alone spend in the city, according to Tyler James, director of sales for the Fort Collins Convention and Visitors Bureau.

"The town is sold out," James said. "There are a few other things going on, but it's a very successful event, and we're lucky to have it in our area."

Cathcart said he expects both featured races, the marathon and half marathon, to be wide open. "We should have another good event," Cathcart said. "The weather looks like it's cooperating, too."

Said James: "The bottom line is that it's a great event."

Classifieds

MYSTERY SHOPPER/MER- CHANDISING POSITIONS AVAILABLE

Job type: Full-Time/Part-Time
Pay: \$15.00 - \$20.00/hour
Mystery Shoppers and Merchandis-
ers Wanted Part-Time AND Full-
Time. Here's your chance to get paid
for shopping and dining out.
Flexible schedule.

Contact Edie: 654-2396

PATIENT CARE DIRECTOR - HOSPICE - RN - HOME HEALTH - REGISTERED NURSE

Job type: Full-Time
Pay: \$60k - \$75k/year
Patient Care Director - hospice - RN
- home health - registered nurse -
community health patient
care director.

Contact Drew: 675-9845

SHIFT MANAGER

Noodles & Company is looking for
shiny, happy people who thrive in
a fast-paced (but not fast food) en-
vironment and appreciate balanced
schedules, awesome hours, and lots
of room to grow. But fear not—
while we do want to be a part of your
life, we don't want to consume it
(hey, we have lives too!).

Job Type: Full-Time

Contact Murphy: 675-5632

FEDERAL POSTAL POSITIONS

EARN \$13.00 TO \$15.00 PER HOUR

The United States Postal Service has
excellent and challenging employ-
ment opportunities for highly mo-
tivated and innovative individuals.
They offer great pay and working
conditions, advancement, full ben-
efits, job security, and a rewarding
lifetime career.

- Paid Training and Career Devel-
opment
- Full Medical & Dental Benefits
- Job Security
- Sick Leave and Health Insurance
- Retirement Program

Toll-Free 7 days for application and
exam info: 888-555-0143 ext. 133

CONTRACT CALL CENTER CUSTOMER SERVICE REPRESENTATIVE

Pay rate is \$10 per hour with no
room for negotiation.

Requirements:

At least two years of call center
customer service experience at one
company is required.

High school diploma or equivalent is
required.

Must be computer literate with the
ability to learn customer service soft-
ware applications.

Duties require professional verbal
and written communication skills and
the ability to type 30 wpm.

Contact Rodney: 555-3212

E-LEARNING INSTRUCTIONAL DESIGNER

Managed Business Solutions is
seeking an e-Learning Instructional
Designer for a role with one of our
partners in Northern Colorado (Ft.
Collins). This is a possible contract-
to-hire role. This position will help
our partner to shape game-oriented
e-learning platforms in a 3D environ-
ment. Only local candidates will be
considered; no third-party or agency
candidates, please.

Contact Isla: 555-9854

QUALITY ASSURANCE TESTER

Managed Business Solutions is seek-
ing a Quality Assurance (QA) Tester
to support our software initiatives in
Ft. Collins, CO. This is a full-time/
salaried opening with our program
team at the National Parks Service.
Only local candidates will be con-
sidered; no third parties or agencies,
please.

Contact Isla: 555-9854

SANDWICH ARTISTS

Perform a variety of duties relating to
QSR restaurant-style service, includ-
ing greeting and serving custom-
ers, cold and hot food preparation,
stocking counters and steam table,
and maintaining sanitation standards.
Responsible customer service is a
major component of this position.

Contact James: 555-9565

Classifieds

Job Announcement: Diseases Technician (prairie dogs/black-footed ferrets)

Colorado Division of Wildlife, Wildlife Health Program

Position: **DNR CF86**

www.wildlife.state.co.us

317 W. Prospect Rd., Ft. Collins, CO 80526

POSITION (TITLE): Temporary Aide (Technician I: Disease – Prairie dogs/Black-footed ferrets; 1 position)

PAY RATE: \$13.50/hr.

LOCATION/DUTY STATION: The first two months (April – May) of this position will be stationed in Moffat County (NW Colorado); after this time we expect the position to be stationed in Fort Collins, with occasional travel required. The position is expected to last through September.

JOB DESCRIPTION: Expected start date is **1 April 2011**. This position will aid in management of and surveillance for sylvatic plague in Colorado. The successful candidate will be required to live in a relatively isolated location in Moffat County for the first two months; rudimentary housing will be provided during this time (e.g., a trailer). The remaining tenure of the position will involve assisting Wildlife Health Program staff with routine disease surveillance, research, and associated activities and will be stationed in Fort Collins.

The first two months of this position will largely be dusting prairie dog burrows with Deltamethrin dust via a backpack dusting unit (i.e., on foot). This will complete an effort to actively control fleas (the known vector of plague) in black-tailed prairie dog burrows in the area with the largest population of endangered black-footed ferrets in Colorado. Dusting burrows will require occasional work in inclement weather and can be physically demanding and tedious. If time permits, additional opportunities for experience may be available (e.g., spotlighting for black-footed ferrets). Must be willing to be flexible with the work schedule, as field work may be dictated by weather, and be willing to occasionally work weekends. This position will also require collection and identification of fleas for plague surveillance and research, following scientific protocols.

MINIMUM REQUIREMENTS: Those with an interest in wildlife conservation, disease, and/or entomology are encouraged to apply. A B.S. degree in Wildlife Biology, Zoology, other natural resources field, or at least one year completed coursework toward a degree in the fields listed previously (i.e., actively pursuing degree) is desired.

- Must be willing to work in areas that may have had plague epizootics in the past, and must follow personal safety guidelines provided (plague is a zoonotic disease caused by the bacterium *Yersinia pestis* and is usually contracted from the bite of an infected flea).
- Must be able to hike with a backpack (<30 lbs.) for up to seven hours each day (expected April – May only).
- Must have a valid driver's license; experience driving 4WD vehicles in adverse driving conditions, operating an ATV, and use of a GPS is preferred but not required.
- Applicants must be detail-oriented, familiar with MS Word and Excel, willing to learn and use CDOW WHP standards for data collection and entry, and have good communication skills.
- Must be able to work independently or with others in somewhat remote areas, often with little direct supervision.

HOW TO APPLY: Please send a letter of interest, C.V. or resume, and contact information for three references via email with "Disease Management Position" in the subject line to bploader@wildlife.net.

APPLICATION DEADLINE: October 1, 2010. New technicians will be chosen from the training sessions in November or February.

Learning Issues Board

Hunches:

What We Know	Learning Issues	Plan of Action

____ What seem to be the most important elements of the problem at this point?

[illegible]

Sample Learning Issues Board

Hunches: Efforts to save the ferret have not been very successful, and the team needs to change its tactics. The team might lose its funding. Maybe something is wrong with the ferret. It must be hard to reintroduce black-footed ferrets into a suitable habitat.

What We Know	Learning Issues	Plan of Action
<ul style="list-style-type: none"> I am a member of the Black-Footed Ferret (BFF) Recovery Reintroduction Team. Progress on reintroduction of the BFF is not moving quickly enough. Some believe saving the BFF is too expensive and too labor-intensive. The media is covering the team's efforts. The team needs to be proactive by anticipating problems and by creating a model of a feasible habitat suitable for BFFs and other inhabitants. Fort Collins, Colorado, is the test site. BFFs are "fragile." I need to present a feasible model to the Project Oversight Committee in about two weeks. 	<ul style="list-style-type: none"> What is the Black-Footed Ferret Recovery Reintroduction Team (BFFRRT)? Why are we reintroducing BFFs? What is so special about the BFF? How is the BFF "fragile"? What is a genetic bottleneck? How much does it cost to reintroduce BFFs? What do BFFs eat? What eats a BFF? What makes a suitable habitat for this kind of ferret? What challenges have occurred during past reintroduction efforts? What can the team learn from less successful attempts? Does the team need to change anything at the test site in order to be successful? What makes a good model? 	<ul style="list-style-type: none"> Research the goals and objectives of the BFFRRT. Look at maps of the Fort Collins area. Read the newspaper article. Find information about the BFF habitat on the internet. Ask a zoologist if he or she knows anything about the BFF.

Bold items represent the child's top priorities for research.