Introduction:

There are many types of birds in and around Alaska. Some of these birds like the chickadee, stay year round. Sadly something is quickly spreading through the chickadee population and severely harming them. People have been reporting cases of chickadees with horribly deformed beaks and toes since 2001. Thousands of reports have come in since then and now an estimated 1,900 chickadees have been affected by this strange illness. That is over 10% of the entire population. Scientists have yet to discover a specific reason for why these abnormalities are happening, but they do have some good guesses. Examples of their guesses are contaminants in the environment, nutritional deficiencies, disease, parasites, or genetic abnormalities. Scientists cannot do anything about the birds until they have found the main cause of the deformities.

Birds with misshapen beaks have been reported as overly aggressive and are often seen chasing other birds away from feeders. Many of the chickadees do not survive the winter because they can't bet enough food to sustain them. Some birds get confused because they have to travel so far to find food that they can't find a way home. This leaves their baby chickadees alone and they starve.

The plan for this project is to observe chickadees near parks, lakes, and houses to see what percent of those birds have deformities. There will be feeders set up at each observation site to attract the birds. The observations will be recorded on a data sheet and then compiled into one set of information.

Materials:

- Bird Feeders
- Food (a stick covered in peanut butter and rolled in crushed seeds)
- Data table
- Pencil
- Binoculars
- Camera

Procedure:

1. Learn to Identify chickadees
2. Put up feeders at your count site.
3. Select count days and times
4. Prepare a tally sheet
5. Count the birds that visit, and observe each one for deformities.
6. Record information on a data sheet. (Cornell Procedure)

Results:

	Danyelle's Data: Collection time: 4-4:45PM				Krista's Data: Collection time: 4-4:45PM			
	Site 1		Site 2		Site 1		Site 2	
Date	chickadee(s)	Deformed	chickadee(s)	Deformed	chickadee(s)	Deformed	chickadee(s)	Deformed
10/29	4	0	2	0	0	0	3	0
10/30	2	0	3	0	4	0	3	0
11/5	3	0	1	0	2	0	3	0
11/6	3	0	3	0	1	0	0	0
11/12	2	0	3	0	0	0	0	0
11/13	4	0	0	0	5	0	0	0

Total	18	0	12	0	12	0	9	0
Total Chickadees Sighted				51	Number Deformed			0

Analysis:

Over the course of about a month, a total of 51 chickadees were observed at four different locations. Outside Krista's house (front and back) and at Danyelle's house and at Jade Park. The observations occurred twice weekly on Wednesdays and Thursdays between the time of 4:00 and 4:45PM. Although a large number of chickadees were seen, none of them had any noticeable abnormalities of deformities. The chickadees that flocked around the feeders seemed happy and healthy. They were all able to easily eat the seeds and show almost no signs of aggressive behavior besides the few arguments over who would sit where. The lack of deformities is easily explained by the fact that only 10% of all adult chickadees have been reported to have defects. While this is still a large percentage, it is rare to see a chickadee with beak or feet deformities. This doesn't mean that the problem is any less serious. Although there are few birds affected now, bill deformities are spreading in the populations. Scientists still have no absolute cause for why this is happening, but hopefully they will soon.

We've concluded that our original question, what is causing the deformities, cannot be answered. However we

explored what some of the affects the deformities have on the chickadees. Through research done by the Cornell Bird Research Lab and USGS, we've discovered that birds with beak defects are generally more aggressive and are not able to eat enough food to last them the winter. None of the 51 chickadees observed at our sites had problems with eating or distemperment.

Bibliography:

O'Harra, Doug. June 1, 2004. Experts remain puzzled over beak deformities in Alaska's birds. Anchorage Daily News. October 2, 2008. http://dwb.adn.com/front/story/5142731p-5073311c.html

Handel, C. M., L. M. Pajot, S. M. Matsuoka, K. A. Trust, J. M. Stotts, J. Terenzi, and S. L. Talbot. 2006. Potential Role of Environmental Contaminants in the Pathology of Beak Deformities among Black-capped Chickadees in South-central Alaska. U. S. Geological Survey, Alaska Science Center. October 2, 2008. http://Alaska.usgs.gov.html

2002-2008. Project Feederwatch. Cornell Lab of Ornithology and Bird Studies Etudes D'Diseax Canada. October 2, 2008. http://www.birds.cornell.edu/pfw/instruxandupdates/inst_index.html

Handel, Colleen. 2000. Chickadee Alert!