

## 1. PROJECT CONTENT: Please indicate the extent to which you agree or disagree with each of the following:

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Response Count
This project improved my understanding of the ecology and management of invasive species	11.1% (5)	<b>51.1% (23)</b>	20.0% (9)	13.3% (6)	4.4% (2)	45
This project improved my understanding of conservation biology and policy	6.7% (3)	<b>46.7% (21)</b>	28.9% (13)	13.3% (6)	4.4% (2)	45
This project improved my understanding of data compilation, management, and analysis	24.4% (11)	<b>44.4% (20)</b>	20.0% (9)	6.7% (3)	4.4% (2)	45
This project increased my appreciation for the value of good data	<b>68.9% (31)</b>	11.1% (5)	13.3% (6)	2.2% (1)	4.4% (2)	45
answered question						45
skipped question						1

## 2. PROJECT MANAGEMENT: Please indicate whether you agree or disagree with each of the following:

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Response Count
The overall goals of the project made sense to me	26.7% (12)	<b>51.1% (23)</b>	8.9% (4)	8.9% (4)	4.4% (2)	45
The website for the project was well-organized	17.8% (8)	<b>42.2% (19)</b>	17.8% (8)	15.6% (7)	6.7% (3)	45
Instructions and protocols for the project were clear to me	8.9% (4)	<b>46.7% (21)</b>	26.7% (12)	15.6% (7)	2.2% (1)	45
Other students mostly knew what they were doing on the project	4.4% (2)	<b>37.8% (17)</b>	26.7% (12)	24.4% (11)	6.7% (3)	45
I was able to get help when I needed it	28.9% (13)	<b>44.4% (20)</b>	17.8% (8)	6.7% (3)	2.2% (1)	45
answered question						45
skipped question						1

### 3. STUDENT EXPERIENCE: Please indicate whether you agree or disagree with each of the following:

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Response Count
I felt like I was contributing to an important research project	22.2% (10)	<b>40.0% (18)</b>	17.8% (8)	13.3% (6)	6.7% (3)	45
Other students were enthusiastic about the project	11.1% (5)	17.8% (8)	<b>48.9% (22)</b>	13.3% (6)	8.9% (4)	45
This was an interesting course/research experience	22.2% (10)	<b>37.8% (17)</b>	17.8% (8)	15.6% (7)	6.7% (3)	45
I would have preferred a more traditional course research project	2.2% (1)	26.7% (12)	<b>33.3% (15)</b>	31.1% (14)	6.7% (3)	45
The time investment for each student was about right for a project like this	13.6% (6)	<b>52.3% (23)</b>	20.5% (9)	9.1% (4)	4.5% (2)	44

If you disagreed on the last item (time investment), please explain briefly (i.e. was it too much or too little?)

6

<b>answered question</b>	<b>45</b>
<b>skipped question</b>	<b>1</b>

### 4. What did you like about this working on this project (if anything)?

	Response Count
	33
<b>answered question</b>	<b>33</b>
<b>skipped question</b>	<b>13</b>

**5. What did you dislike about this project, and what suggestions would you have for improving this kind of project experience?**

**Response  
Count**

35

**answered question**

**35**

**skipped question**

**11**

**Q3. STUDENT EXPERIENCE: Please indicate whether you agree or disagree with each of the following:**

1	not enough time and enough suport!!!	May 4, 2011 1:47 PM
2	i feel like we spent more time working on this than i spent working on anything else for any of my other classes.	May 2, 2011 12:04 PM
3	Far too much, far too frustrating.	May 2, 2011 7:38 AM
4	Too much info to deal with	Apr 6, 2011 6:59 AM
5	I felt like I wasted a lot of time due to an unclear objectives and processes involved in getting the correct data in the correct format. I spent many hours re-doing work.	Mar 28, 2011 5:18 PM
6	Students could do as much or as little as they chose to do without any consequences if one member of the group does all the work and one just copies the data the day it is due.	Mar 15, 2011 11:39 AM

**Q4. What did you like about this working on this project (if anything)?**

1	I can appreciate the need for such a project. For me, this was a great way to further my knowledge about data compilation.	May 4, 2011 2:35 PM
2	I liked that it was a large scale project beyond what is normally done in class.	May 4, 2011 1:25 PM
3	The fact that we got to do an on going outdoor experiment and report on it.	May 4, 2011 10:17 AM
4	I really liked the idea of this project. There are many invasive species that go unregulated or unnoticed and the concept of gathering this information seems very significant. With the proper information, this project can be very effective and important for the future.	May 4, 2011 6:49 AM
5	I liked the idea behind the project once I realized how difficult it was to ascertain the data. There was a lot of interesting data that could be found on all of the different websites. Many things could have been changed to improve the overall project, but it was interesting nonetheless.	May 3, 2011 11:34 PM
6	i was very interested in the results. i am interested in what is statistically significant in regard to number of invasives	May 3, 2011 5:13 AM
7	I loved working on a real science project. Sometimes in my bio classes I feel like were "pretending" because we already know the outcome that we are looking for in our labs. Compiling data was awful, it was boring and difficult and sometimes the data just sucked. That was the best part. Knowing that sometimes a biologist can work their very hardest and the data is just crap and there isn't anything you can do about that. I loved this project.	May 2, 2011 5:19 PM
8	This project provided me with an opportunity to participate in research that had real applications and I did learn a bit about the process of updating and consolidating data.	May 2, 2011 4:24 PM
9	I felt that I was making a substantial contribution to the project, despite that contribution being small. I also liked taking part in what seemed like a novel approach to research. I had never heard of employing several classes of students to assist with a large data collection and organization effort before taking part in this project, and I was glad to be a part of it.	May 2, 2011 1:59 PM
10	it helped illustrate to me the lack of information we actually have on the refuges in this country.	May 2, 2011 12:04 PM
11	working on reserves in our area/region	May 2, 2011 10:30 AM
12	I really enjoyed the entire data-gathering process, although it was frustrating trying to make the data as uniform as possible. I thought this was a good project that had a few glitches that made it difficult.	May 2, 2011 10:13 AM
13	Understanding how refuge websites work, and in general how refuges are run.	May 2, 2011 7:55 AM
14	i liked getting real world experience. it i was much more useful than a normal project.	May 2, 2011 7:42 AM

**Q4. What did you like about this working on this project (if anything)?**

15	I liked how as undergraduates we have the opportunity to contribute our skills and research to the creation of a database and hopefully arrive at interesting conclusions.	Apr 7, 2011 8:59 PM
16	I liked when I completed a refuge, knowing I contributed a great deal to the project.	Apr 6, 2011 6:59 AM
17	It got me involved in an undergraduate research project. Good experience to put on a resume possibly.	Apr 1, 2011 7:49 AM
18	I loved that I was working on something that was going to have an actual real world impact. Sometimes I feel like we get so inundated with theory that we lose sight of how it is implemented in every day science. I feel like I was part of something important.	Mar 29, 2011 6:52 PM
19	What I liked best was just learning the details about the different refuges. It was fun trying to find the information about them-like going on a plant-treasure hunt.	Mar 28, 2011 5:54 PM
20	I liked the exposure to NWR systems and using data results for analysis that can be used to improve habitat management dealing with plant species factors and variables. I believe that this process has been rewarding in that exposure to the refuges and problems they are experiencing became our problems and we could feel the need for a better way of identifying factors affecting some of those specific issues. The goal of the project can help make available for NWRs across the nation much needed information that can assist in specific area management. Thank you.	Mar 28, 2011 5:18 PM
21	It was interesting learning about different refuges. I never realized how many there were in the USA	Mar 15, 2011 11:54 AM
22	N/A	Mar 15, 2011 11:52 AM
23	I thought that it was a great experience, because we did actual research.	Mar 15, 2011 11:49 AM
24	i thought that it was fun and interesting to look at data being compiled from actual wildlife areas and refuges across the nation. It made it feel almost like we were doing real science and that the data we compiled were going to be used and worthwhile in a real world experience.	Mar 15, 2011 11:48 AM
25	Nothing	Mar 15, 2011 11:47 AM
26	Working on this project made me feel like I was actually giving a contribution to the scientific community.	Mar 15, 2011 11:44 AM
27	The website for the project was very descriptive and comprehensive.	Mar 15, 2011 11:37 AM
28	Being able to communicate with (some of the) refuges directly; made the practice of conservation feel less nebulous and distant.	Mar 12, 2011 3:25 PM
29	It was useful for me to go through the plant lists as I have an interest in the flora of California.	Mar 10, 2011 1:51 PM
30	a sense of collaboration with other students, schools, agencies	Mar 10, 2011 1:00 PM

**Q4. What did you like about this working on this project (if anything)?**

31	I really think the idea of compiling invasive species data to find trends is really useful, and updating invasive plant data for refuges is really important for future proactive monitoring and management decisions.	Mar 10, 2011 11:30 AM
32	This is my first time working on a real-world project that will have far-reaching effects, so that was exciting.	Mar 10, 2011 9:45 AM
33	test survey	Mar 10, 2011 9:31 AM

**Q5. What did you dislike about this project, and what suggestions would you have for improving this kind of project experience?**

1	The tools for generating species lists were not always accurate, like BIOTA.	May 4, 2011 2:35 PM
2	It would have been nice to meet the person in charge.	May 4, 2011 1:25 PM
3	I disliked that we didn't get almost any information about the forest habitat because our traps were defective. I would suggest having the class create a new type of trap that dirt could not get into.	May 4, 2011 10:17 AM
4	Gathering information from wildlife refuges was very difficult. Like I said, I think the concept for this project is really good, but could be much more effective at gathering the information. It worked and we got results, but I feel it could have been done better. It was very frustrating to get such limited information from refuge websites and responses were vague from employees. I recognize that this is still a relatively new field and information is limited, so I hope our information will help out those who carry it out next.	May 4, 2011 6:49 AM
5	The project seemed a little overbearing at times, because the websites were not always easy to understand and the owners of the refuge sites sometimes were very difficult to get in contact with. Some of the data was a bit confusing in how it was to be obtained, and the fact that a lot of species lists had to be counted to determine the amount of invasive species present was horribly time consuming. The project data was difficult to compile and never seemed to match to the data of my group mate. Doing this as a group was difficult, because if one person cared and the other didn't it made the entire project seem like a waste of time for the one who cared. They ended up with no one to compare their data with to make sure they were calculating things correctly. It became obvious people were unsure of how to do things when they were listing 4000 invasive species for a refuge, and they would list 4000 for another and so on and so forth. It just so happened that the BONAP page had a default number of species for the "country" and this number was kicked back if people entered the wrong location name, and in some cases people took this to be the actual numbers to use. If there was a more dedicated group of people to tackle this I think it could have been a success, but having a few that don't care ruin the overall experience.	May 3, 2011 11:34 PM
6	too much time had gone by since the surveys were filled out. it should have been done sooner. also, it would have been great if we found out about the CCPs earlier rather than later.	May 3, 2011 5:13 AM
7	Nothing. This project gave me a geek hard on.	May 2, 2011 5:19 PM
8	My main criticism comes from the study's methodology. I strongly disagreed with the method of having two students email the same request to the same people. I have participated in a lot of research projects outside of this one, and I am certain that we would do this differently. Many of the refuge staff members felt harassed by these requests, and those feelings were completely legitimate. More could and should have been done to avoid this reaction, especially considering that they were doing us a favor by participating, and methods that do not take this into account may damage future participation. Worse was the fact that I was not even aware of this inter-observer reliability check until I received multiple angry emails from employees.	May 2, 2011 4:24 PM
9	Wrangling past and present park managers was a hassle, but it was also 100% necessary so I cannot fault NCEAS for that. I would have liked to know what sort of analysis was planned for the park data prior to starting the project. It would have given me a better understand of just what I was doing.	May 2, 2011 1:59 PM



**Q5. What did you dislike about this project, and what suggestions would you have for improving this kind of project experience?**

10	the amount of time it took, and it didn't seem all that well organized.	May 2, 2011 12:04 PM
11	support system/cooperation within the class. check-ins on progress of data collection.	May 2, 2011 10:30 AM
12	Data-collection was hard to standardize. There were problems with the BONAP exotic lists and with identifying what data from websites could be used in the project and what could not. Quite a few students in my class spent a lot of time trying to find approximate species lists on websites, only to find out that the data could not be used. Clearer instructions on what is and is not useful data would be a huge time-saver.	May 2, 2011 10:13 AM
13	A little disorganized at times, and sometimes disappointing when we could not get species lists etc from refuges.	May 2, 2011 7:55 AM
14	I often felt like the directions and layout were unclear or confusing. The desired format was definitely unclear. I would have liked to know how long each part should take.	May 2, 2011 7:42 AM
15	I disliked that fact that many of the NWR managers did not respond to emails. You can't do anything to improve this unless you previously contact them all and let them know what is going on.	Apr 7, 2011 8:59 PM
16	I did not like all the information I had to compile. At times, it was overwhelming and took a long time to contact, find, and place all the information in its appropriate areas.	Apr 6, 2011 6:59 AM
17	Make sure the instructors know what they are doing. The website was very helpful by my professor and her assistant didn't seem to know what they was doing or they didn't know how to explain and teach it well. That made it harder for the class to understand what to do and made the project more frustrating that it should have been.	Apr 1, 2011 7:49 AM
18	I was disappointed with the general lack of enthusiasm from the other students in the class. It seemed to me like they considered it just another school project and never really grasped that it was a REAL research project. There seemed to be no sense of urgency or responsibility with some of them. That made me sad. I felt like they were not taking advantage of a great opportunity.	Mar 29, 2011 6:52 PM
19	I disliked having to change partners for every refuge. I'm not good at computer file organization, and it became quite a mess of retrieval problems for me. Also, the different species lists to acquire for the spreadsheet information were a source of confusion. The exotic/invasive issue was not always clear as far as the lists went. Thank you for letting us work on this, though. It was very interesting.	Mar 28, 2011 5:54 PM

**Q5. What did you dislike about this project, and what suggestions would you have for improving this kind of project experience?**

20	I disliked the learning how and what to do as you go method. Better up front exposure to the process of getting the data and how the data would be used would have clarified objectives and saved a lot of trouble experienced in learning the correct way to get and use the data. A lab would have better served as training exercises so that questions could have been asked and resolved in class to keep every-one on the same page. not having a clear understanding for each students objective was frustrating for me. This objective should not be verbal but written so each student can refer the objectives and keep confusion to a minimum. Get the specific objectives out in front of the students and keep them simple. (This is what we need, this is how you get it, and this is how you record what you find and this is why everyone needs to do it the exact same way.) By allowing each student to stumble through the training exercises I felt that each student came up with different methods and understandings of what the objectives were which later took extensive e-mails and clarification to straiten out. The background on the project was clear and understandable, however objectives for the project including how the project was to be broken down by student and what each student was expected to accomplish in bullet points in one clear document would have saved a lot of wasted time.	Mar 28, 2011 5:18 PM
21	It felt like busy work. I don't enjoy compiling data maybe other people do, so I have no suggestions.	Mar 15, 2011 11:54 AM
22	I disliked the fact that the nceas website is severely lacking in data. It is very boring and hard to find information on a site that has no information. Neither of my refuges had plant lists. I honestly think that I learned very very little from this assignment. i was indeed a complete waste of time.	Mar 15, 2011 11:53 AM
23	Not to do it. It was a waste of time, we spent time searching for numbers that didn't exist instead of actually learning something.	Mar 15, 2011 11:52 AM
24	I didn't like the fact that some of the data was nonexistent and the fact that they didn't return my emails. it was very frustrating.	Mar 15, 2011 11:49 AM
25	The data that we were required to obtain was incredibly hard to find and in several instances it was scattered all across the board. This made obtaining data a timely matter, and in most instances it became very frustrating. A experiment like this makes one value the worth of good data, and truly understand the uselessness of bad data.	Mar 15, 2011 11:48 AM
26	I've never had a project in a lab that I had to work on outside of class before. I didn't like that--this is a lab. I found it tedious and boring.	Mar 15, 2011 11:47 AM
27	Gathering data was quite difficult	Mar 15, 2011 11:44 AM
28	It was impossible to get in touch with anyone from the refuges so it was difficult to get any kind of quality data.	Mar 15, 2011 11:39 AM
29	Lack of credible information, Lack of willingness to participate by wildlife officials	Mar 15, 2011 11:37 AM
30	i was unable to get any information from the refuges that i contacted. had they been generous with supplying information, it would have been a wonderful experience	Mar 15, 2011 11:36 AM

**Q5. What did you dislike about this project, and what suggestions would you have for improving this kind of project experience?**

31	There's a lot to explain about how to accomplish specific tasks, so I can understand why it was done in the way it was. But site navigation took a while to get accustomed to, accessing plant data information was unclear (what kind of data are we looking for? from where to we obtain it?), and exotic vs. invasive distinction was unclear.	Mar 12, 2011 3:25 PM
32	Some variable definitions could have been clarified. Also, my group of refuges to analyze all had an extreme paucity of habitat information.	Mar 10, 2011 1:51 PM
33	More direction needed. Many refuges didn't email me back.	Mar 10, 2011 1:00 PM
34	The data tallying was really tedious due to the unorganized way the sheets sent by refuges were set up. I was also uncertain about which plants to count (vascular or all, species only or subspecies) and felt the data would have been stronger if that had been clarified at the beginning. I also found that the quality score calculator was a bad representation of actual quality; it gave me similar scores for refuges that had plant lists and those that didn't. So the data punching was really tedious although I thought the overall question was a good one.	Mar 10, 2011 11:30 AM
35	I was frequently confused and frustrated, with the website, with the refuges, and with the data. My group only had once complete data point out of our eight, so that was rather discouraging.	Mar 10, 2011 9:45 AM