

Marion County Lake and Park Survey

Natural Resources and Environmental Sciences

Kansas State University

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Introduction:

Marion County Park and Lake, located northwest of Marion, Kansas, was built by the Civilian Conservation Corps (CCC) in 1934 after like-minded sportsmen came together to push for a lake for recreational activities. The election passed by a large majority and construction began. By 1937, a dam was built and the lake was stocked with fish, and by 1940, it saw a crowd of more than 10,000 visitors. The park area is 300 acres with 153 of those acres being water reaching depths up to 40 feet. Since its establishment, a few hundred homes and cottages have been built for residents and visitors. Most of the park and lake users are permanent residents.

Despite its growing popularity as a place for recreation and a place to live, Marion County Park and Lake does not have a management plan. For this project, we created a survey to help better understand visitors' and residents' wants, needs, and current uses in Marion County Lake and Park to get insights that would potentially help in the development of a management plan. The survey we constructed will help current park managers develop rules and regulations for this area. The data collected will also be helpful in creating a land management plan at Marion County Lake and Park. Due to the COVID-19 situation that occurred during our semester, we were unable to have this survey go out to visitors and users of the park. Our hope is that next semester's students will be able to put this survey out to the public and analyze the data for the park managers at Marion County Lake and Park.

Literature Reviews:

Desired and Acceptable Conditions of Lakes and Parks

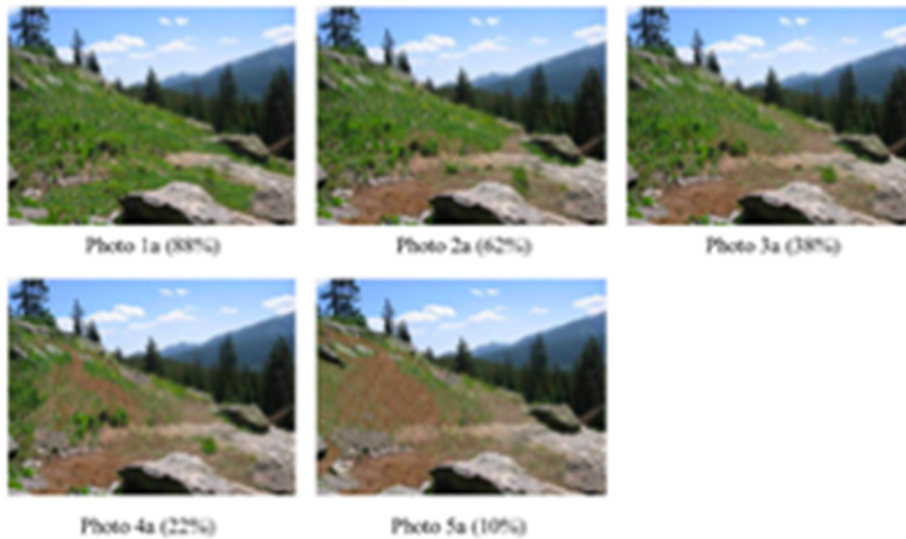
This literature review investigates the desired and acceptable conditions of lakes and parks. Several studies use different ways to measure and analyze visitor's perception of different aspects of each park and lake. The topics of the review are focused on the methods that have been used in previous studies to gather data to determine what is considered desired or acceptable conditions. The first section considers effective ways to collect visitor perception data with the use of photos to compare for preference, norm curves to understand what is considered acceptable, and using codes to interpret and evaluate open-ended responses. The second section looks at visitor awareness of areas of parks and lakes both during a hike or while they are

stationary at their primary hiking destination in addition to some technical options that could be used to monitor visitor actions to aid in the determination of desirable and acceptable conditions.

Effective ways to Collect Visitor Perception Data *Edited Photos of Lakes*

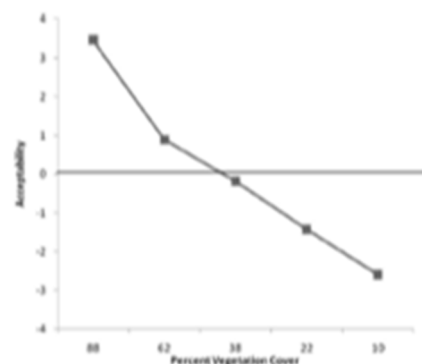
Most people respond best to visuals and when photos that show different sceneries are placed side by side it is easier to conclude that one photo would be better or preferred over the other. Many surveys have been conducted where a photo of a lake or park was taken in its natural state and then with a photo editing software some element of the photo is changed or additional pictures of something may be added on top of the photo. Photos of Lake Champlain which sits along the borders of Vermont, New York, and Quebec in the U.S and Canada are taken to show the shoreline. These photos are edited to show zero houses, three houses, nine houses and fifteen houses on the shoreline and then placed side by side and shown to visitors. Additional photos of the lake were also used to assess the crowding of boats on the lake. (Anderson 2011). Similarly, photos of mountainous hiking trails at Bear Lake Road Corridor of Rocky Mountain National Park in Colorado (Fig. 1) show visual stimulation of percent of vegetation cover loss with percentages representing the vegetated area in the photo visually impacted. (D'Antonio 2013).

D'Antonio et al. / Journal of Environmental Management 124 (2013) 72-81



Social Norm Curves

When using photos as a tool to gauge visitors' perceptions, depicting the data is important. Social norm curves could be constructed for the acceptability of many aspects of parks and lakes (Smyth 2006). The rating of acceptability is usually along the Y axis and the varying options of different conditions are along the x axis. These graphs can show the optimal condition, range of acceptable conditions and the minimum acceptable condition. Social norm curves can clearly show the results of a survey and ultimately determine what is considered acceptable conditions for that area. After comparing photos of a park or lake the visitor can easily rate the photos from best to worst and their responses can be plotted on a graph. It was quickly and easily determined with social norm curves exactly what the visitors of Lake Champlain would consider acceptable housing development on the shoreline of the lake (Anderson 2011) and what visitors of Bear Lake Road Corridor of Rocky Mountain National Park would consider acceptable vegetation coverage on hiking trails (Fig. 2) (D'Antonio 2013).



Importance of indicators

The quality of parks and lakes depends on the aspects of the park and lake that people enjoy most. When determining what conditions are acceptable it is important to understand what the visitors are basing their opinions on. In an open-ended question survey visitors were asked about the things they most enjoyed about their visit to The Great Smoky Mountains National Park in Denver Colorado. The activities they enjoyed most correlated with perceptions of those areas held to a higher standard. (Anderson 2010).

Coding open-ended responses

You can conduct surveys in two ways: closed-ended questions and open-ended questions. Closed-ended questions are easy to collect, and the data analysis can be smooth and quick. Open-

ended questions give the surveyors more detail about what the audience thinks rather than limiting them to a one-word response. With open-ended questions the responses will hold more specific data, but it takes a longer time to analyze. In order to analyze all the responses, it is important to read each one and take note of multiple words or phrases that tend to be recurring. These will become a part of a set of codes (Table 4) that will be used to count the number of similar responses and analyze the outcome of the data (Urioste 2015).

Table 4
Themes, categories and coded responses from the open-ended questions about visitor perceptions of the potential effects of climate change to tourism at Acadia-MDI, Maine, U.S.

Theme	Category	Code	Number of coded responses
Climate change will affect the tourism and recreation in MDI	Perceptions of negative effects of climate change at MDI	Negative environmental effects	211
		Sea level rise (coastal erosion, increased ocean temperatures, reduced access, impact to coastal resources)	98
		Temperature change--extreme cold or hot temperature	56
		Negative effects of climate change in general	53
		Negative impacts of climate change to wildlife	25
		Extreme weather events	22
		Negative impacts to fishing/lobster industry	12
		Precipitation increase	10
		Positive effects of temperature (relief from extreme heat)	11
		Positive effects on the overall natural environment	2
		Wildlife (new species migrating to the region)	2
		Statement on climate change in general	41
		Believe CC is occurring	7
		Travel decisions impacted	5
Climate change will affect everything	2		
Climate change will NOT affect tourism	Believe in climate change	Pollution increase	2
		Resilient--capacity to adapt	59
		Long-term	17
	Do not believe in climate change	Unsure about the potential effects to MDI	8
		Nothing we can do	1
		Not happening	28
Unsure of the effects of climate change to tourism in MDI	Believe in climate change	Invention by government, media, politicians/science	8
		Unsure about how it will affect MDI	46
		It is happening	12
		Long-term effects	3
		Not enough information; would like to have information	26
Do not believe in climate change	4		

Awareness and Monitoring

Visitor awareness

When surveying an area, it is important to note what parts of the park or lake visitors are not aware of the conditions. Some areas are easily noticed like vegetation cover over a picnic table or bench. If there is too much or too little vegetation it is easily seen and would be noted. For other aspects of the park such as soil erosion some may not be knowledgeable to know what to look for. For example, although vegetation cover is more easily viewed tree damage is less likely to be noted (Farrell 2017). Where someone may give a positive review on the tree conditions they may just as easily be lumping this in with vegetation and are not aware of tree damage. In addition, visitor perceptions may depend on their awareness differing from while they're hiking to when they arrive at their primary hiking destination. Visitors seem less perceptive to most types of resource impacts at their primary hiking destination as opposed to while they were hiking (D'Antonio 2012).

Monitoring

Monitoring visitor behaviors is also a good indicator for what acceptable conditions may be. Understanding what areas of a park are used the most will help managers to know what areas are valued the most. The response the public has on that area will help indicate what conditions are considered acceptable. Katmai and Lake Clark National Parks and Preserves in Southwestern Alaska put up cameras to live stream their brown bears during their peak season, but they were able to receive data about their park through these cameras as well (Dagan 2019). From data that was collected through their Southwest Alaska Inventory and Monitoring Network, they were able to determine what the visitor use days for several main activities in the park were (Fig. 3). In addition, other technologies can be implemented for further monitoring. In journeyman National park in south central Norway on the shore of the Genders Lake is a highly trafficked tourist attraction (Ancin-Murguzur 2019). Drones were used to take images of the trails in the park a year apart. Depth and width measurements were placed in the trails to reference the accuracy of the photos taken from above. With the correct digital imaging software, you can see parts of the park quickly and easily to compare growth or decline of the effects of some conditions such as vegetation. This is especially important to monitor the decline of an affected area due to human use. In an efficient manner, park managers could easily monitor the recreational impacts on their park or lake.

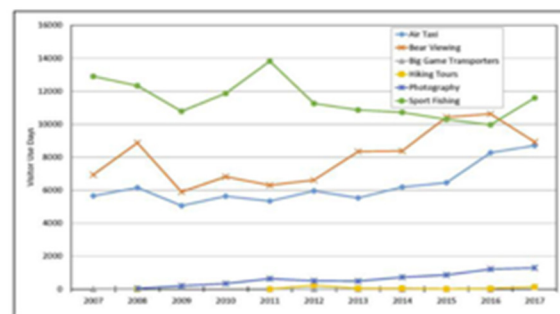


Figure 3. 2008-2017 visitor use days for each main activity in Katmai National Park and Preserve, as reported to the park by commercial use. Source: Southwest Alaska Inventory and Monitoring Network (2018a).

Survey Construction and Methods in Research

Research is an important tool, whether deciding on which new car to buy, college to go to, or working toward making a new scientific discovery. Research can be conducted through several different methods, including from literature, collecting data in the field, laboratory work, and even surveys. Surveys are a vital research tool when the goal is to obtain a better

understanding of the attitudes, values, beliefs, and perceptions of people for various reasons, from political to social to environmental issues, policies, and movements. It is important to monitor the public's opinions on particular matters as they are directly or indirectly affected by any decisions and policies, and how they view these matters and determine the level of importance to them. The authors refer to this as the "cognitive hierarchy," which explores the general values and specific attitudes to understand how cognitions influence individual behavior (Vaske et al., 2011). This approach has been used more in research of human behavior and perceptions related to wildlife and what people value, their basic beliefs and desires, and what's culturally important. Depending on the overall goal of the survey and project, different survey methods can be used to increase respondent turn out, and specific design features can significantly contribute to the response rate, all starting with the first question (Dillman, 2007).

Survey Questions and Construction

Once the overall research topic is chosen, it's important to develop questions that will answer subjects of interest. Surveys can ask a variety of questions like short answers, yes or no, Likert scaling (1-to-5 or strongly disagree to strongly agree), cumulative scaling (check only those that apply), picture prompts, and so on. According to Shropshire et al. (2009), survey questions using images can increase the likelihood of keeping participants engaged.

Figure 12. Photographs for measuring maximum acceptance of campfire conditions

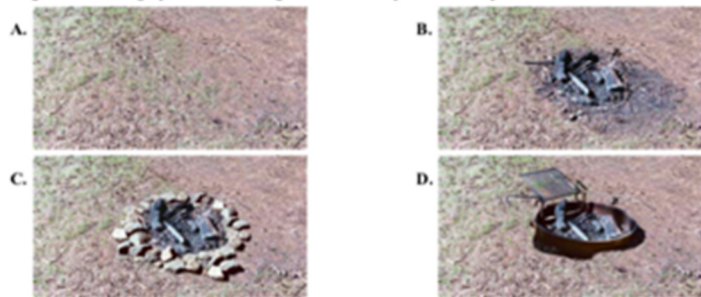
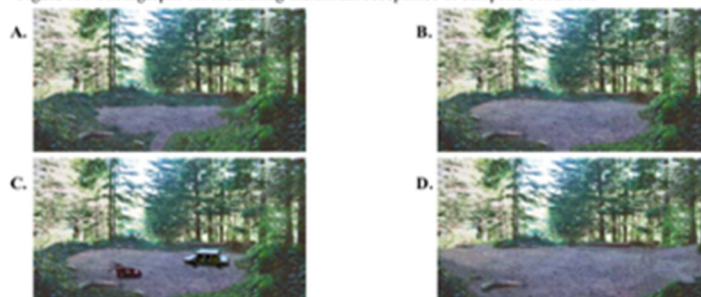


Figure 13. Photographs for measuring maximum acceptance of campsite conditions



An example of a picture prompt measuring respondents' acceptance of campfire and campsite conditions at Lost Lake in Oregon (Needham, 2006).

12. How many of *each* of the following did you see at Lost Lake today? (write responses for *EACH* item)

I saw about: mean = 11.60 other visitors in total at Lost Lake
 mean = 2.78 other visitors in the parking area
 mean = 5.02 vehicles in the parking area
 mean = 3.49 other visitors on the lake
 mean = 2.15 boats / watercraft on the lake
 mean = 5.54 other visitors on the shore

13. To what extent did you feel crowded by each of the following at Lost Lake today? (circle one number for each item)

	Not at all Crowded		Slightly Crowded		Moderately Crowded			Extremely Crowded	
Number of other visitors in the parking area	46%	20%	13%	9%	3%	4%	3%	0%	1%
Number of vehicles in the parking area	41	19	10	6	7	4	9	1	3
Number of other visitors on the lake	52	26	7	7	3	0	3	1	0
Number of boats / watercraft on the lake	62	16	4	9	4	2	2	2	0
Number of other visitors on the shore	47	29	7	6	4	3	3	0	0
Total amount of use at Lost Lake	46	25	7	9	4	3	4	2	0

An example of a fill-in-the-blank question and a Likert scale question with results from respondents (Needham, 2006).

Questions typically asked of respondents in any kind of survey include demographics such as age, gender, location of residence, education, employment, household income, ethnicity, race, and so on. Demographics provide concrete characteristics that help narrow down what kind of audience the site or location attracts, and how the researchers' message will resonate with the targeted audience (Parker, 2017).

After all wanted questions are finalized, the order of questions must be determined. Surveys are like a conversation; it needs to flow and be in an order to make sense, otherwise, if questions are ordered with no recognizable pattern, it can be frustrating for users. Grouping questions by topic according to the principles that follow is helpful and will increase the likelihood of participants to finish the survey (Dillman, 2007). Question topics are usually attempted to be ordered in a way that is logical and will keep the respondent engaged. For example, demographics are often answered first, and objectionable questions are placed near the end after the respondent has had a chance to become interested in the survey. In addition, Dillman makes a point to say the order of question type, such as unfavorable-favorable scalar questions, agree-disagree, or yes/no should be grouped together or in an order that provides more ease to answering questions. Going through a survey that has new questions with new topics throughout requires more effort on the respondent's part, so subtly taking away that cognitive

effort they have to exert will improve responses. When asking opinion-based questions, it's effective to order them based on values, as in an order that each question will take into account one's answer to the one before and one after to evoke response and thinking.

Survey Response

There are many ways to deliver surveys, including by mail, in-person interview, group interviews, phone interviews, online surveys, through social media, and drop-off. The history of survey research has seen many transitions with how data is collected, and with today's massive social media platform and most people on the internet, online surveys are the most popular distribution method, although they are often of questionable quality. Before the internet-based surveys emerged, paper-and-pencil was the typical method of survey conduction, along with telephone and in-person interviews (Shropshire et al., 2009). Response rates can be generally fairly low in surveys, and they can depend on the sample size, length of survey, willingness to participate, method of delivery, and general demographics of survey receivers. Studies have been done, though, to increase respondent turnout, including one conducted by Vaske (2011), by providing half of receivers a traditional mail survey, and half of the sample received the same survey but through the internet. If the internet sample group did not complete the online survey, they were then sent the physical copy through the mail. By providing a mixed mode option, it increased the response rate. The internet responses tended to come from younger and/or better educated individuals, so demographics also can play a role in the way people respond.

Another method that was used by Bartolotta and Hardy (2018) in their survey study on the desired behaviors for single use plastic items in Lake Erie's basin, they conducted an online survey through Qualtrics, an online survey software, and gave access to people through multiple outlets. These sources included newsletters, webpages, social media, public libraries, recreation centers, neighborhood festivals, beach clean-ups, and open houses. By giving access to their survey to many places that would see all kinds of people, it gave more of a representative sample of the population.

Survey Bias

One of the challenges of developing a survey is eliminating bias. It is easy to create bias by wording questions in a way that can influence respondents to answer one way or the other,

whether intentional or not. In Shropshire et al.'s Web survey design research, they designed their survey to determine how visual images influence survey responses compared to surveys lacking images, and if this was another tactic in subtly influencing higher survey-taker responses. The survey questions used photo prompts to ask a series of questions related to support for the protection of endangered species while asking questions on a Likert scale. It was found that using pictures and other design features could potentially redefine questions for individual respondents, leading to answering the question differently than if the images were not provided. This can lead to surveyors creating attitudes and opinions rather than measuring them, which is the purpose of a survey. But, images can also increase survey answer accuracy by providing survey-takers with a frame of reference through image choice, and it can increase survey completion rates by engaging participants in something visually appealing.

Bias can also be created if there is a limited demographic group represented. In Seabrook-Davidson's and Brunton's study of public attitudes and awareness toward conservation and awareness of threatened species in New Zealand, their study was slightly biased toward educated professionals and those who are interested in biodiversity conservation. Sometimes bias is inevitable, even if best efforts are taken to eliminate it. But, bias leads to an unrepresentative sample of the surveyed population, and can therefore skew results.

Factors Influencing United States National and State Parks

This literature review explains the factors that influence the development of operations and management in State and National Parks. There are many steps park managers have to go through to understand what the park needs and how to accomplish those goals. Some major factors include human impacts to the environment, issues our parks are facing, and the future of our parks. The following sections will help better explain each of these factors in detail.

Tourism Industry

Tourism is a huge industry that has many effects on our planet. The impacts range from global contributions to climate change, to localized effects on endangered plant and animal species in protected areas (Buckley, 2011). Since tourism is so big and people are constantly traveling all over the world to see nature, our protected areas like national and state parks are hurting. One of the major issues we are facing right now is over-tourism.

Main Issues in Parks

Over the years, there have been many impacts to the parks because of climate and humans. Since visitation is increasing drastically, that means many of the parks are facing a variety of problems. In a model developed by Manning and Anderson in their book *Managing Outdoor Recreation*, they separate the issues in national parks into three categories: Environmental Issues, Social Issues, and Managerial Issues (Chandler, 2018). These are explained in the following sections.

Environmental Impacts

The first category of impacts outlined by Manning and Anderson are those visitors have on resources, mainly impacts on soil, vegetation, water, wildlife, air, soundscape, night sky, and historical/cultural resources (Chandler, 2018). Environmental issues are mainly caused by over tourism because as the number of people increase, trails widen, and plants and soils get trampled. The reason parks made trails the way they did was so that people would walk in a single file line to a destination. Now that over tourism is happening, these trails are widening and expanding and new trails are even being made because people venture off the trails. As you can see there are many negative effects by going off of trails. Parks even have to shut trails down every once in a while or limit the amount of people on them because the resources are being negatively affected.

Social Impacts

The second series of impacts caused by outdoor recreation revolves around the experience of the user which deals with things that visitors do that impact other visitors (Chandler, 2018). These include conflict between groups or visitors, crowding, and rude behavior. Right now, I think the main social impact to our national parks is overcrowding. Many of the surveys done by park employees finds that almost all respondents say there were too many people in popular areas, as well as backcountry areas.

Managerial Impacts

In this section, the impacts deal with areas that see a large amount of park visitors and therefore are at a high risk of being damaged by the ecological and social issues described in the

above sections (Chandler, 2018). Since there are high amounts of visitation, that means the facilities are used at a much higher rate as well. Primarily the main areas are campgrounds, roadways, parking lots, popular attraction sites, and programs and facilities in the park. Since many parks have to deal with these problems, managers have to deal with them directly by implementing new rules and regulations, and sometimes areas and facilities have to be shut down for long periods of time. There are some negative effects of closing areas down though, which cause visitors to not be happy. One of the main issues parks seem to be facing are conflicts between the visitors and park managers.

Visitor Satisfaction

Visitor satisfaction plays a major role in whether visitors will come back to a park or not. We have been seeing almost a double digit rise in visitation at many of our national parks including three Utah parks (Steed, 2018). Many parks are conducting surveys to see how visitors are handling increasing levels of visitation, and many are not happy with current conditions. People typically visiting parks on weekends or holidays have a lower satisfaction rate than other times of the year.

Crowd Sourced Photos

One of the methods used to better understand visitor attitudes is by using crowd-sourced photos. These photos are created by taking a photo of a specific location at a park, then people are photo-shopped into them, so there are a set of photos with different amounts of people in them. Researchers then take these photos and ask visitors questions like, “how many people is too many?” and, “would you still continue to come here if there were this many people?” The purpose of using this method is to understand visitor attitudes and behaviors if visitation keeps increasing (Sessions, 2016).

The Future of Parks

The future of our parks is highly dependent on how visitors treat these parks currently. In order to protect our National and State Parks, visitors and managers both need to know the necessary steps to ensure our parks will be protected. Since our parks have a very high visitation

rate in the United States, there needs to be conservation and preservation efforts put in place. In the next sections, I will explain methods needed in order for the future of our parks to exist.

Sustainable National Park Management

Sustainable national park management is a conscious and planned effort to combine environment, science, economics, and social and education aspects into the development process to ensure ability, well-being, quality of life, and quality of present generations and future generations (Santosa, 2014). All of these factors depend on one another, and help park managers come up with the needed regulations for their park. For these park managers, a number of factors like research dimensions, data collection, and ecology are involved to help them understand what exactly is going on inside their parks, and how to address these issues.

Mindfulness/Mindlessness Model

Another model that can be used is called the Mindfulness/Mindlessness Model. This is used to investigate visitor attitudes and behaviors to nature-based destinations (Frauman, 1999). This model is effective for managers because they can collect information that will help them understand visitors and why they act or behave the way they do. Since there can sometimes be a divide among park managers and visitors, this model will help managers to develop rules and regulations needed in their park.

Ecological Concerns

National and State Parks protect a large number of areas around the United States. The main goal of these parks is to protect them for future generations to be able to enjoy too. The main issue here is that these protected areas vary in their levels of protection, management goals, and functions (Paulson, 2016). Although these places are protected, they still change because of climate, logging, droughts, etc. Park managers need to know about what issues they are currently facing in their parks, so they can plan out new regulations and areas that need to be closed off, to ensure that they can survive for years to come.

Soundscapes

One of the major things that visitors seek out when they visit parks is solitude. Many visitors list ‘peace and quiet’ as one of the main reasons they visit certain parks. It is an escape from their busy life to somewhere that should be relaxing so they can take in being one with nature. The term used to describe this is called a soundscape. A soundscape is defined as the natural sounds occurring in the environment (Boyle, 2013). Being able to visit parks and feel this sensation is a major reason people visit parks in the first place. When there are too many people hiking along trails for example, this experience dampens the mood of the visitors hoping to escape into nature and be in solitude. Since overcrowding has become such a major issue in the past few years, there are few places where visitors are actually able to experience this.

Park Operations

The management of the National Park System and NPS programs is guided by the Constitution, public laws, treaties, proclamations, executive orders, regulations, and directives of the Department of the Interior (Wade, 2010). These documents are what the National Park System depends on for protection, but each park can also create laws as needed as long as they follow the guidelines of these laws. Park operations and regulations are extremely important because without them, there would be no protected areas in the United States.

Visitor Survey Methodologies and Ideologies in Parks and Protected Areas

Parks and protected areas are important for many ecological, social, and cultural reasons. This literature review starts by attempting to define the visitor experience. The next section outlines different ideology approaches to measuring the visitor experience and how they compare. Next, we look at the specific survey methods commonly used to gather data about the visitor experience. Then we discuss the pros and cons of electronic surveying, the most common survey medium. Next, specific survey design elements for better/more survey responses are examined. Finally covered are possible survey errors to look out for and sampling considerations.

Assessing the Visitor Experience [Borrie, W.T., Birzell, R.M. 2001, Bushell, R., and T. Griffin. 2006]

The visitor experience is very complex and it varies based on who the visitor is, how long they are there, location attributes, the purpose of their visit, the weather, and the season (which affects how many other visitors there are). Given all this variability it is important for managers to clearly define their goals and purpose so that they can determine what to measure and how to use the information gathered. It is also important to consider data comparability across different sites and make sure that the same methods can be used universally so that results are accurate. While physical and ecological aspects have received a lot of attention from agencies and in legislation, the experiential dimension of wilderness experience is also very important. The overall focus of recreation research is finding a way to identify and protect the experiential value of recreation in relation to the number of people wishing to enjoy those values.

Ideology Approaches [Borrie, W.T., Birzell, R.M. 2001]

Satisfaction Approach

The first and most basic approach is the satisfaction approach, in which visitors evaluate their experience based on how satisfied they feel with it. This relies on visitors accurately perceiving and basing their evaluations on the conditions experienced. One of the major weaknesses with this approach is that it assesses on the visitor level as a whole and might not adequately meet the needs of all individuals. Another major downfall with this method is it focuses on specific attributes instead of looking at the experience as a whole and may not provide a holistic view of the experience. While it may be useful for evaluation of management performance it does not offer much insight on the nature of the wilderness experience.

Benefits-Based Approach

Benefits-based approach differs from the satisfaction approach in three main ways. The first being that instead of focusing on visitor satisfaction with individual attributes, it looks at satisfaction with the psychological outcomes of the recreation experience. Secondly, it adds to the idea of a recreation setting so that it includes physical, social, and managerial conditions. Thirdly, to combat the weakness of not considering each individual's experience, it focuses on the importance of diverse opportunities for recreation experiences and less on the

average experience. The benefits-based approach was developed through the recreation opportunity spectrum (ROS). It seeks to create a link between setting and recreation experiences preferences, although research has not found a strong correlation there. ROS is still very useful for inventorying, classifying, allocating, and evaluating recreational resources. Through this recreation managers can manage settings to provide opportunities for a variety of experiences.

Experience-Based Approach

This approach looks at a recreation or wilderness experience as a multidimensional event that changes over time. Researchers ask a visitor to describe their experience at different points throughout it. By pinpointing the qualities that define the experience for the visitor it helps to better conceptualize the wilderness experience as a whole. A major weakness with this method is it is hard to manage for as it suggests the experience is based more on perception than setting.

Meaning-Based Approach

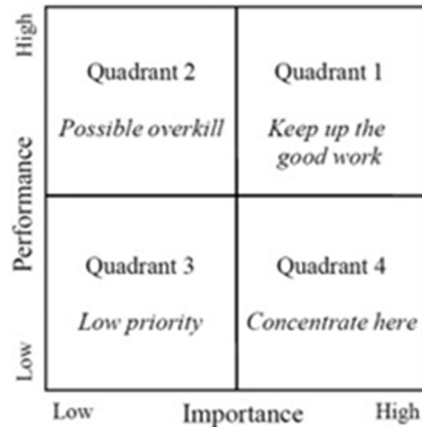
A meaning-based approach seeks to understand the role wilderness experiences play in the context of the visitors' lives. Self-affirmation, where individuals confirm aspects of their identity they see as positive ideally takes place during recreation and leisure experiences. Another need met by these experiences is a sense of place in which individuals attach meaning to a specific place, including the feelings and perceptions they associate with that place. These are important things to consider when managing for wilderness experiences, but also very hard to manage specifically for. The meanings individuals associate with specific wilderness experiences might be the best measure of quality, and therefore using a combination of approaches can yield the best results.

Surveying Methods [Tonge, J., Moore, S., Taplin, R., Manning, R. E., Freimund, W. A. 2004, Sever, I. 2015]

Importance-Performance Analysis

Importance-performance analysis (IPA) visually maps consumer importance on the x-axis of a grid and the attribute's performance as perceived by the consumer on the y-axis. The grand means can be used in place of the scale midpoints to account for skewed data (for example

visitors going to natural areas are more likely to rate attributes associated with them more highly). By visually plotting each attribute on the grid park managers can see what things they are doing well, what they may be focusing too much on, where it's important to improve, and things that are low priority.



While this method is popular because it outputs results that are easy for managers to use, there are issues with it. The first issue is with there being no set definition of “importance”. Importance could either be the perceived value or the significance of the attribute to the individual. Importance is also used interchangeably with expectations as well while there is a difference between the two. So, some authors in IPA literature define importance as the desired outcome and expectations as the tolerated outcome. Another issue with this method is when attribute points fall too closely to the threshold lines. It makes it difficult to confidently assess what management action needs to take place when a slight change in position could greatly alter it. A similar issue arises when it comes to distinguishing between two attributes that are placed in the same quadrant. The same general label (concentrate here, low priority, etc.) is given to each attribute in that quadrant, regardless of where they fall on the graph in relation to the thresholds. This can be easily combated, though, by looking at the attributes’ distance from the iso-rating line and prioritizing each one that way. Another difficulty with IPA mentioned is selecting appropriate attributes to measure as that greatly affects the management decisions. One of the major issues with the IPA method is deciding on the optimal positioning of thresholds. There are quite a few ways listed such as simply judging the threshold yourself, data-centered, and scale-centered approaches, using the means, and iso-rating lines. The lack of research in validity and reliability criteria with the IPA method is also listed as another possible weakness with this method. Biases such as the social desirability and fatigue bias arise in cases

of direct measurements where individuals are self-starting their ratings of importance. The last major issue with IPA listed is scale construction and comparability as two different constructs (importance and performance) are being examined on different scales.

The major way to combat the issues with IPA is by using receiver operating characteristic (ROC) analysis. ROC is a commonly used approach for assessing the predictive accuracy of diagnostic tests. It classifies the individuals responding as either truly positive or truly negative outcomes. It relies on a reference test that detects the true outcome; you then compare the test results to this true outcome. The ROC analysis outputs a cut-off point for positive and negative outcomes, and that position also determines the number of true positives, true negatives, false positives, and false negatives. These values and the distribution of frequencies in each of those categories in turn indicates the test performance.

		True outcome (determined by 'gold standard')		Total
		Positive	Negative	
Test result	Positive	True positive (TP)	False positive (FP)	TP+FP
	Negative	False negative (FN)	True negative (TN)	FN+TN
Total		TP+FN	FP+TN	TP+FP+FN+TN

Gap Analysis

Another approach is gap analysis which also uses the means of importance and performance scores to determine what attributes need to be focused on. This method uses a more statistical approach and subtracts the performance mean from the importance mean. Usually a t-test is then taken to determine whether the gap is significant or not and the score can then be used to assess whether action needs taken or not. If the gap is negative it indicates that action is needed as the importance value is higher than the performance value.

Threshold Performance Targets

With threshold performance targets a percentage target is determined (usually around 70-95% of visitors surveyed are satisfied with the given attribute) and whether the target percentage is reached or not identifies areas to work on. You can take it further by calculating P-values for attributes that did not meet the target percentage and then rate them my importance values.

Visitor Satisfaction

The most basic method is asking visitors how satisfied they are with their visit. This can also include other questions such as whether they would be willing to return or if they would recommend the park to friends. Often this method is measured by a standard Likert scale with visitors rating their satisfaction on a scale of 1-5 with 1 being not satisfied at all and 5 being extremely satisfied.

Visual Research Methods

Visual research methods can help set standards of quality, or the minimum acceptable conditions of a park's physical and social conditions from the visitor perspective. Setting standards of quality are important so that park managers know when management action is needed and to control impacts of use. Norms have been a big focus of research as they are generally the baseline level visitors use to evaluate conditions from. By measuring this level, we can determine standards of quality.

By using visual methods, such as showing visitors photographs, research can be more standardized by showing all visitors in the study the same pictures. By having a visual representation, individuals can see characteristics such as group size, recreation activities the visitors are engaging in, and other things that might be relevant to deciding upon acceptable conditions. Whereas with the common numerical or narrative approach individuals make assumptions about these characteristics and these assumptions are likely not the same among respondents. Another benefit of visual methods is that photographs can be manipulated using computer programs to create conditions visually that might not exist. This is especially relevant to assessing crowding as higher densities of visitors might not exist yet but very well might in the future. Measurement of responses usually take place in one of two ways. The first way is having respondents rate the acceptability of conditions in each photograph. The second is by having the respondent determine which photograph represents their maximum acceptable conditions.

Visual research methods generally satisfy measures of validity, or the degree to which something does what it is intended to do or measures what it is supposed to measure. The researchers asked the respondents questions relating to their understanding of the survey and whether the photographs realistically represented conditions after the study and the overall

results were positive. Other tests of validity were also met with positive results. While visual methods still might not be able to capture the dynamic variables of an outdoor recreation experience, this is a promising field of research.

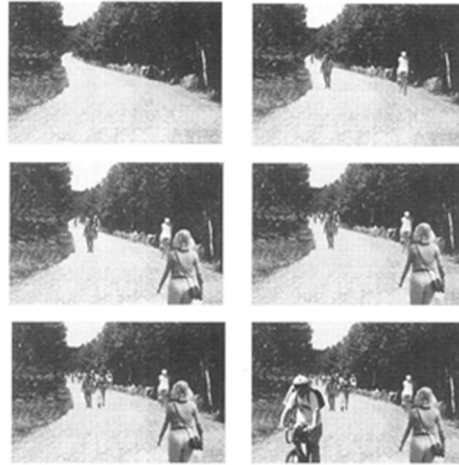


Figure 3. Representative Photographs of the Carriage Roads at Acadia National Park Showing a Range of Two Types of Visitor Use

Electronic Surveying [Mertler, C. 2002]

Most current surveys are conducted online via web or e-mail. The advantages of using these methods include a high response rate, cost efficiency, shortened time frame, ease of data transfer for analysis, respondent convenience, and wider possible coverage. The disadvantages of online surveys, though, include difficulty defining the population clearly, technology issues such as lack of computer knowledge or inaccessibility to a computer all together, and the potential for non-randomness in the sample which is one of the largest criticisms.

In a study conducted by Matz she found no significant difference in demographics between participants responding to a web survey versus those completing a mailed pencil and paper survey. She also found no significant patterns or response differences. However, there was a difference in response rate with 43% completing the paper survey and only 33% completing the web survey. Other similar studies listed yield similar results suggesting that results from a web-based survey are likely to be very comparable to those achieved from a paper survey. While response rates might be lower, with online surveying it is more efficient and easier to reach more people than an on-site or paper survey.

Survey Design [Minto, C., Vriza, G. B., Martinato, M., & Gregori, D. 2017]

There are strategies to encourage user response and help them navigate the survey. Some of these strategies are to attach a cover letter addressed directly to the user with the survey,

sending the questionnaire to people who have an interest in the topic, sending out reminder letters/telephone calls, providing a time estimate for completion of the survey, and providing instructions on how to accurately complete the questionnaire. Another factor is questionnaire design, as results show a plain, straightforward design yields a higher response rate than a “fancy” design. Survey construction is also important, such as keeping the questions short and easy to answer, taking the order in which questions are asked into consideration (an interesting, easy question first increases user response), and adding a progress indicator to show users how far they are in the survey.

Survey Errors and Sampling Considerations [Sue, V.M., Ritter, L.A., 2012, Brick, J.M. 2011]

There are several possible errors in surveying that are important to keep in mind. The first is coverage error, where the sample does not completely represent the target population. One of the ways to reduce this error is by making sure the target population has access and is proficient at using whatever survey media you use (internet, e-mail, cell phone). The second error is a nonresponse error which comes in two forms: a user not participating in the survey at all, or the user skipping certain survey questions. Some of the methods to combat this are in survey design. A third type of error is sampling error, which is where estimates are based on sample data instead of population data, as samples vary each time. This is why multiple surveys of different samples is the best way to get accurate information. A lot of the research today is focused on estimation methods to account for errors. This is critical because the use of weighting adjustments and analytic methods can take the place of more extensive data collection if used properly and therefore is more cost effective.

Another area likely to see a lot of development and research in the future is multiple frame sampling in which samples are taken from two different frames and then the data is combined to get a more comprehensive view. Multiple frame sampling is based on the idea of responsive design, which aims to reduce the nonresponse error in data collection by making respondent characteristics align more accurately with those of the entire sample. There is also research being done on non-probability or volunteer samples and the possibility of being able to get accurate results in conjunction with propensity scoring. While the future of survey sampling is entirely uncertain it is very likely to change largely based on our societal developments.

METHODS:

For survey construction we used a survey designed by a group from last semester as a basic template. We eliminated some questions that gave us data that we did not necessarily need, in an effort to keep the survey as simple and concise as possible. We also added a few questions, such as whether the user had experienced any user conflicts or overcrowding while visiting the lake, and whether there were any features they would like to see added. There were also three questions another group asked us to add that pertained to water quality. The superintendent at the lake, Isaac Hett, said questions that are most beneficial for him as a manager are questions relating to lake use and policy. Most of our questions focused on demographics and how visitors used the lake (what they did, for how long, whether they stayed overnight), as well as their stance on some of the issues at the lake. We used the survey software Qualtrics, which makes it very easy to input the questions and get different answer types (single choice, short answer, multiple answer, rankings, etc.).

Our initial plan for conducting the survey was to make it available by email. We had hoped to obtain email addresses from visitor permits for lake use but learned that not everyone has to obtain a permit to use the lake. Only visitors staying overnight, using a boat, paying storage/trailer fees, or renting the shelter house or lake hall require a permit. Obtaining email addresses for only visitors with permits would not show a fair representation of the total visitors that use the park and lake. In addition to that, the permits do not have any contact information included, only name and resident city/state. Our next option was to conduct in-person surveys on site. This was not very feasible for our group considering the scope of our project and seasonal weather making strong data collection challenging. Similarly to previous groups, it was determined the best way to conduct our survey was through the Marion County Park and Lake Facebook page. Due to Covid-19 our group did not produce the survey to Facebook. After speaking with Isaac Hett, the superintendent of the park our intentions were to send the survey to him and he would post the survey on the Marion County Lake and Park Facebook page to promote visitors to fill the survey out. We planned to leave the survey up on Facebook for two weeks then take it down and analyze the responses. A Previous group reported they received numerous responses via Facebook which indicates that this is a sufficient method for reaching the visitors of Marion County Lake and Park. For a future group, with our survey and IRB

application created, this survey could be conducted and yield promising data for a management plan for Marion County Lake and Park

IRB:

In order to conduct research surveys and receive data from the public, you must fill out an IRB application (Institutional Review Board) explaining where the survey will take place, what is being researched, for what purpose and who the data will be available to. This is a crucial step in the research project as a survey cannot be conducted without this approval. The application process can take some time to be received and approved so submission of an application at an early date is important. Once approved, the survey may be conducted or released to the public

Data Analysis:

After the survey is taken down from the Facebook page, the data will be able to be analyzed. The data collected from the survey will tell us visitors' behaviors, actions, wants and needs that the park managers will be able to look over. The data will also tell us what the concerns and pros and cons are of Marion County Lake and Park.

Conclusion:

This survey will help Marion County Lake and Park managers create a land and management plan by assessing the current conditions and attitudes of the visitors at the park. The data collected will help park managers address current issues and evaluate how to best solve them efficiently. Visitors will also be able to express their feelings and thoughts about positive and negative aspects that may need to be changed. With our literature review, survey and IRB application this project is ready to be passed on to another group in the coming semesters to conduct the survey and collect data for Marion County Park and Lake.

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Appendix A: Marion County Lake and Park User Survey

Marion County Lake User Survey

Start of Block: Default Question Block

Q37 This survey will collect information on how you are using Marion County Lake and how you would like the lake to be used. The data from this survey will be used to help create a lake management plan to better serve our visitors. No personally identifying information will be collected and all information will be kept confidential.

Q1 Are you a resident or trailer owner at Marion County Lake?

- Yes (1)
- No (2)

Q2 Is the lake your main residence?

- Yes (1)
- No (2)

Q17 What is your gender?

- Male (1)
- Female (2)
- Prefer not to answer (3)

Q18 What year were you born?

Q16 We are interested in learning where our visitors are coming from. Please enter the zip code of the town you currently live.

Q3 What time best represents when you primarily use the lake?

- Morning, before noon (1)
- Afternoon, noon to 5:00 p.m. (2)
- Evening, after 5:00 p.m. (3)

Q4 How long do you primarily stay when you use the lake?

- Less than an hour (1)
- 1-3 hours (2)

- 4-8 hours (3)
- More than 8 hours (4)
- Overnight (5)

Q5 If you are staying overnight, are you camping or staying with a resident of the lake?

- Campsite (1)
- Resident's House (2)
- Not staying overnight (3)

Display This Question:

IF If you are staying overnight, are you camping or staying with a resident of the lake? =
Campsite

Q6 On this visit, my party is staying in... (select all that apply)

- RV/Camper (WITH electric hookups) (1)
- RV/Camper (WITHOUT electric hookups) (2)
- Tent (3)
- Other, please specify (4) _____

Q8 On average, how many times per year do you use the lake? (enter numerically)

Q9 What activities did you participate in during your most current visit? (select all that apply)

- Visit a resident (1)
- Sightseeing (2)
- Walking (3)
- Bicycling (4)
- Swimming (5)
- Fishing (6)
- Boating (7)
- Camping (8)
- Renting the hall or shelter house (9)
- Disc golf (10)
- RC plane (11)

- Other (please specify) (12)
-

Q11 What activities have you participated in during previous lake visits? (select all that apply)

- Visit a resident (1)
 - Sightseeing (2)
 - Walking (3)
 - Bicycling (4)
 - Swimming (5)
 - Fishing (6)
 - Boating (7)
 - Camping (8)
 - Renting the hall or shelter house (9)
 - Disc golf (10)
 - RC plane (11)
 - Other (please specify) (12)
-

Q12 Rank activities based on importance to you

- _____ Visit a resident (1)
- _____ Sightseeing (2)
- _____ Walking (3)
- _____ Bicycling (4)
- _____ Swimming (5)
- _____ Fishing (6)
- _____ Boating (7)
- _____ Camping (8)
- _____ Renting the hall or shelter house (9)
- _____ Disc golf (10)
- _____ RC plane (11)

_____ Other (please specify) (12)

Q13 Which of the following are most important to you about Lake Marion? (can select multiple)

- Convenience of location (1)
 - Variety of activities (2)
 - Care of facilities (3)
 - Family atmosphere (4)
 - Safety (5)
 - Aesthetics (6)
 - Cost of amenities (7)
 - Other (please specify) (8)
-

Q14 How does this lake compare with others you have visited?

- This lake is worse than others I have visited (1)
- This lake is the same as others I have visited (2)
- This lake is better than others I have visited (3)
- I have not visited any other lakes (4)

Q19 How many people, including you, are visiting the lake in the same party? (i.e. came in the same vehicle)

Q20 Were children a part of your party?

- Yes (1)
- No (2)

Q21 What are the relationships between members of the party?

- All family (1)
- All friends (2)
- Both family and friends (3)

Display This Question:

IF Are you a resident or trailer owner at Marion County Lake? = Yes

Q22 How long have you been a resident at Marion County Lake?

Q23 How many days a year do you use the lake?

Q24 Do you think migratory geese should be allowed to overwinter at Marion County Lake?

- Yes (1)
- Not sure (2)
- No (3)

Q25 Should dead or fallen trees be removed from the lake and surrounding area?

- Yes (1)
- Not sure (2)
- No (3)

Q26 Should the hours wake-causing boats are allowed to operate be extended?

- Yes (1)
- Not sure (2)
- No (3)

Q27 Have the algal blooms affected your decision to participate in lake activities?

- Yes (1)
- Not sure (2)
- No (3)

Q28 What features you would like to see added to the lake?

- Benches (1)
- Dock(s) (2)
- Playground (3)
- Bathhouse (4)
- Other (please specify) (5)

Q29 Have you experienced any user conflicts while visiting the lake?

- Yes (1)
- No (2)

Display This Question:

IF Have you experienced any user conflicts while visiting the lake? = Yes

Q30 Please describe the user conflict you experienced

Q31 Have you experienced overcrowding when visiting the lake?

- Yes (1)
- No (2)

Q32 How important is water quality management to you?

- Not all important (1)
- Mostly not important (2)
- Neutral (3)
- Mostly important (4)
- Most important issue (5)

Q33 How big of an issue do you consider sedimentation (sediment deposits filling in the lake) to be in this watershed?

- Not an issue (1)
- Mostly not an issue (2)
- Neutral (3)
- Mostly an issue (4)
- Serious problem that requires immediate action (5)

Q34 How much do water quality issues (like blue-green algae) affect your use or recreation?

- Not at all a factor (1)
- Mostly not a factor (2)
- Neutral (3)
- Mostly a factor (4)
- Major factor (5)

Q35 Please use this space to express concerns about the lake or other comments you might have.

Q36 Thank you for participating in this survey. Your responses are greatly appreciated.

End of Block: Default Question Block

Appendix B: IRB



Committee for Research Involving Human Subjects (IRB) Application for Approval Form

Please send your completed application to comply@k-state.edu

INSTRUCTIONS

Be sure to save the application PDF to your computer before you begin completing the form. You may not be able to save your changes if you edit this form in a web browser.

The KSU IRB is required by law to ensure that all research involving human subjects is adequately reviewed for specific information and is approved prior to inception of any proposed activity. Consequently, it is important that you answer all questions accurately. If you need help or have questions about how to complete this application, please call the Research Compliance Office at 532-3224, or e-mail us at comply@ksu.edu.

Please provide the requested information in the outlined text boxes. The text boxes are designed to accommodate responses within the body of the application. As you type your answers, the text boxes will expand where appropriate and as needed. After completion send your application by e-mail to comply@k-state.edu.

You may sign this form using a digital signature. **DO NOT** sign the form until it has been completed. You cannot edit the form entries once the form has been digitally signed. If you are making revisions to a previously signed form, right-click the digital signature and select Clear to remove the signature (this can only be done by the person who originally digitally signed the form).

Forms that have not been signed will not be accepted.

Additional material is requested with this application. Be sure to provide electronic copies of the following documents (if applicable) and submit them to comply@k-state.edu along with your application:

- Consent Form (see *Administrative Information, IX. Informed Consent A.*)
- Sponsor's grant application or contract as submitted to the funding agency. (See *Administrative Information*)
- Surveys, instruments, etc used for data collection (see *V. Design and Procedures C. and X. Project Information P.*)
- Debriefing statement to be utilized (see *IX. Informed Consent E.*)

**FAILURE TO PROVIDE ALL INFORMATION REQUESTED MAY LEAD
TO A DELAY IN PROCESSING YOUR REQUEST.**

**Please proof read and check spelling BEFORE submitting the form.
To use Acrobat spelling check, press F7 or select EDIT, CHECK SPELLING**

**PLEASE CONTINUE TO THE NEXT PAGE
TO BEGIN COMPLETING THE FORM**

ADMINISTRATIVE INFORMATION:

Title of Project/Course:

Type of Application: New / Renewal Revision (to a pending new application)
(check one box)
 Modification to an existing approved application #:

Principal Investigator Details: (must be a KSU faculty member):

Name: Degree/Title:

Department: Campus Phone:

Campus Address:

E-mail: Fax #:

Responsible Graduate Student: (Person to contact for questions/problems with the form):

Name: Campus Phone:

E-mail:

Does this project involve any collaborators not part of the faculty/staff at KSU? (projects with non-KSU collaborators may require additional coordination and approvals):

No Yes

Project Classification (Is this project part of one of the following?):

Thesis Dissertation Faculty Research

Other:

Note: Class Projects should use the short form application for class projects.

Copy of the Consent Form: Copy will be submitted to comply@ksu.edu with this application Consent form not used

Funding Source: Federal State Internal Other

Funding Agency: Please give name of Funding Agency. (You will also need to provide a copy of the sponsor's grant application or contract as submitted to the funding agency. Submit documents to comply@ksu.edu with your application.)

Based upon criteria found in 45 CFR 46 – and the overview of projects that may qualify for exemption explained at <http://www.hhs.gov/ohrp/policy/checklists/decisioncharts.html>, I believe that my project using human subjects should be determined by the IRB to be exempt from IRB review:

No Yes (If yes, please provide the category of "Exemption" in the space below)

Exempt Projects: 45 CFR 46 identifies six categories of research involving human subjects that may be exempt from IRB review. The categories for exemption are listed here: <http://www.hhs.gov/ohrp/policy/checklists/decisioncharts.html#c2> If you believe that your project qualifies for exemption, please indicate which exemption category applies (1-6). Please remember that only the IRB can make the final determination whether a project is exempt from IRB review, or not.

Exemption Category:

MODIFICATION:

Is this a modification of an approved protocol? No Yes If yes, please comply with the following:

If you are requesting a modification or a change to an IRB approved protocol, please provide a concise description of all of the changes that you are proposing in the following block. Additionally, please highlight or bold the proposed changes in the body of the protocol where appropriate, so that it is clearly discernible to the IRB reviewers what and where the proposed changes are. This will greatly help the committee and facilitate the review.

- I. NON-TECHNICAL SYNOPSIS** (Please provide a brief narrative description of proposal. This should typically be less than 75 words and be easily understood by nonscientists):

The purpose of this project is to get a better understanding of how residents and visitors of Marion County Lake and Park in Marion, KS perceive the lake and park, and what policies can be implemented in the future to improve their experience.

- II. BACKGROUND** (concise narrative review of the literature and basis for the study):

Park visitors represent critical stakeholders who may contribute positively or negatively to the management at Marion County Park and Lake (MCPL). A fundamental step in managing parks and providing high quality experiences, is identifying peoples' opinions of important resources and management actions (Manning, 2011). Also, among the primary goals for any park are providing for public enjoyment and high quality visitor experiences. Visitors are attracted to lakes and parks. Managers' success can be attributed to their proactive approach to understand what visitors want, what can be accommodated and how to reach new audiences. This research supports this proactive approach not only by addressing current issues and understanding at MCPL, but the information gathered will also provide a baseline to help managers confidently tackle future issues or opportunities that will inevitably arise. Ultimately, the information gathered through this project aims to assist managers in avoiding pitfalls encountered at other similar areas due in part to a lack of information.

- III. PROJECT/STUDY DESCRIPTION**

(Please provide a concise narrative description of the proposed activity in terms that will allow the IRB or other interested parties to clearly understand what it is that you propose to do that involves human subjects. This description must be in enough detail so that IRB members can make an informed decision about the proposal).

The project will incorporate a quantitative survey to understand lake and park residents' and visitors' perceptions of MCPL. The survey will be informed by past studies (with validated scales) and input from MCPL managers. Once the survey has been developed, it will be tested for reliability and validity and then finally administered via Facebook to MCPL residents and visitors. The investigators will use a stratified randomized probability sampling approach to provide a robust representation of the residents and visitors to MCPL.

- IV. OBJECTIVE**

(Briefly state the objective of the research – what you hope to learn from the study).

Learn perceptions of park and lake users to incorporate attitudes and feelings into potential future management plans and policies.

- V. DESIGN AND PROCEDURES** (succinctly outline formal plan for study)

- A. List all sites where this research will be conducted:

Marion County Park and Lake in Marion, KS.

- B. Variables to be studied: Resident/visitor understanding of current policies, perceptions of their experiences,

demographics, opinions on management

- C. Data collection methods: (surveys, instruments, etc - **copies must submitted to comply@k-state.edu**).

Facebook survey

- D. List any factors that might lead to a subject dropping out or withdrawing from a study. These might include, but are not limited to emotional or physical stress, pain, inconvenience, etc.

We do not anticipate any undue duress as a result of this study. It is 100% voluntary.

- E. List all biological samples taken: (if any)

N/A

Describe storage and disposition of biological samples: (How long will samples be kept, will samples be used for other purposes, how will samples be destroyed)

N/A

Will whole genome sequencing be used:

No

Yes

- F. Debriefing procedures for participants:

Participants will be thanked for their participation and told that their responses are anonymous and confidential.

VI. RESEARCH SUBJECTS:

- A. Source:

Residents and visitors to Marion County Park and Lake

- B. Number: (provide a brief rationale for your sample size)

2,261 individuals that follow the Facebook page. The number of responses will be representative of the total population of residents and visitors to the park and lake.

- C. Inclusion criteria: (List any unique qualifiers desirable for research subject participation)

Any MCPL Facebook page follower that lives or has visited the site.

- D. Exclusion criteria: (list any unique disqualifiers for research subject participation)

People not on the Facebook page or active on Facebook during the data collection period.

- E. Recruitment procedures:

How will subjects be identified?

Anyone who is following the Facebook page. The manager of the park or of the Facebook page will post the link and description to the survey, as well as its purpose. From there, the survey will be active and there for anyone willing to participate in.

How will subjects be recruited (advertisement, associates, etc.) ?

They will be asked to participate through a shared link on the MCPL Facebook page.

How will subjects be enrolled?

There will be an active link on the MCPL Facebook page that participants can willingly click on and take the survey.

Describe any follow-up recruitment procedures: (reminder emails, mailings, etc.)

After one week, a follow-up reminder will be posted on the Facebook page to encourage those who have not participated, if they so choose so to do.

VII. RISK - PROTECTION - BENEFITS: The answers for the three questions below are central to human subjects research. You must demonstrate a reasonable balance between anticipated risks to research participants, protection strategies, and anticipated benefits to participants or others.

A. Risk for Subjects: (check all that apply)

- Exposure to infectious diseases
- Use of confidential records
- Exposure to radiation
- Manipulation of psychological or social variables such as sensory deprivation, social isolation, psychological stressors
- Examining for personal or sensitive information in surveys or interviews
- Presentation of materials which subjects might consider sensitive, offensive, threatening, or degrading
- Invasion of privacy of subject or family
- Social or economic risk
- Risk associated with exercise or physical exertion
- Legal risk
- Review of medical records
- Review of criminal records
- HIV/AIDS or other STD's
- Employment/occupational risk
- Others – Please explain below (Indirect risks, risk to individuals who are not the primary subjects):

B. Minimizing Risk: (Describe specific measures used to minimize or protect subjects from anticipated risks.)

All information will be confidential and anonymous.

C. Benefits: (Describe any reasonably expected benefits for research participants, a class of participants, or to society as a whole.)

The park and lake will have a better understanding of their visitors and residents, which will in turn provide managers with information to provide these individuals and future residents and visitors with a better experience.

D. More than Minimal Risk? In your opinion, does the research involve more than minimal risk to subjects? (“Minimal risk” means that “the risks of harm anticipated in the proposed research are not greater, considering probability and magnitude, than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests.”)

- Yes No

VIII. CONFIDENTIALITY: Confidentiality is the formal treatment of information that an individual has disclosed to you in a relationship of trust and with the expectation that it will not be divulged to others without permission in ways that are inconsistent with the understanding of the original disclosure. Consequently, it is your responsibility to protect information that you gather from human research subjects in a way that is consistent with your agreement with the volunteer and with their expectations.

A) Explain the type of data that will be collected (electronic, hard copy, video, specimens, etc.):

Electronic

B) Explain where the data will be stores:

data will be stored on class mates computers

C) Explain the time frame of the data storage, to include how data will be destroyed:

data will be stored until the end of the semester (June 2020) and the data will be electronically sent to Marion lake park management then deleted off class mates computers

D) Explain who will have access to the data, and privacy/security provisions (password protection, encryption, etc.):

Class mates of this project and the advisor will have access to this data. The park management will have access to this data. Data will most likely be printed in the form of a hard copy or electronically sent and passwords and encryption will not be necessary.

IX. INFORMED CONSENT: Informed consent is a critical component of human subjects research - it is your responsibility to make sure that any potential subject knows exactly what the project that you are planning is about, and what his/her potential role is. (There may be projects where some forms of "deception" of the subject is necessary for the execution of the study, but it must be carefully justified to and approved by the IRB). A schematic for determining when a waiver or alteration of informed consent may be considered by the IRB is found at <http://www.hhs.gov/ohrp/policy/checklists/decisioncharts.html#c10>

Even if your proposed activity does qualify for a waiver of informed consent, you must still provide potential participants with basic information that informs them of their rights as subjects, i.e. explanation that the project is research and the purpose of the research, length of study, study procedures, debriefing issues to include anticipated benefits, study and administrative contact information, confidentiality strategy, and the fact that participation is entirely voluntary and can be terminated at any time without penalty, etc. Even if your potential subjects are completely anonymous, you are obliged to provide them (and the IRB) with basic information about your project. See informed consent example on the URCO website. It is a federal requirement to maintain informed consent forms for 3 years after the study completion.

Answer the following questions about the informed consent procedures.

Yes No A. Are you using a written informed consent form? If "yes," include a copy with this application. If "no" see B.

Yes No B. In accordance with guidance in 45 CFR 46, I am requesting a waiver or alteration of informed consent elements (see section VIII above). If "yes," provide a basis and/or justification for your request.

There is minimal risk involved in taking the survey and participation is voluntary.

Yes No C. Are you using the online Consent Form Template provided by the URCO? If "no," does your Informed Consent document have all the minimum required elements of informed consent found in the Consent Form Template? (Please explain)

No information consent from will be used because of minimal risk involved.

Yes No **D.** Are your research subjects anonymous? If they are anonymous, you will not have access to any information that will allow you to determine the identity of the research subjects in your study, or to link research data to a specific individual in any way. Anonymity is a powerful protection for potential research subjects. (An anonymous subject is one whose identity is unknown even to the researcher, or the data or information collected cannot be linked in any way to a specific person).

We will be collecting names from intercepted visitors, who will voluntary provide this information. Once the surveys are made available Online then received back, they will be assigned a number, thus the individual surveys will not be connected to an identifiable individual.

Yes No **E.** Are subjects debriefed about the purposes, consequences, and benefits of the research? Debriefing refers to a mechanism for informing the research subjects of the results or conclusions, after the data is collected and analyzed, and the study is over. (If “no” explain why.) **Copy of debriefing statement to be utilized should be submitted to comply@k-state.edu with your application.**

Information will be provided at the beginning of the intent and reasons for the survey.

F. Describe the Informed Consent Process:

Who is obtaining the consent? (i.e. Principle Investigator, Graduate Student, etc.)
 No informed consent form will be used because of the minimal possibility risk.

When and where will consent be obtained?
 No informed consent form will be used because of the minimal possibility risk.

If assent (for minors) is required, please describe who will obtain the assent? (Assent means a child's affirmative agreement to participate in research)
 N/A

If assent (for minors) is required, when and where will assent be obtained?
 N/A

How will consent be obtained from non-English speaking participants? (a translated written form, orally, identify the name and qualifications of the individual providing the translation)
 This study will be for only English speak participants.

Informed Consent Checklist

Items	YES	NO	N/A
Does the title appear at the top of the consent/assent form?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is the consent/assent form written toward the subject?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is there a statement that explains that the study is <i>research</i> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is there a statement that explains the <i>purpose</i> of the research?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Are the procedures to be followed explained clearly and adequately?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Does the consent document describe <i>risks or discomforts</i> to subjects as a result of participating in the research?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is the consent/assent form written in the <i>native language</i> of the potential subject?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Are participants compensated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If the subjects' identity is known to the PI, does the form detail how confidentiality of records will be maintained?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is contact information for both the PI and the URCO/IRB office included?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the consent document indicate to the participant that he/she can withdraw at any time from the project without penalty or loss of benefit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Are there probable circumstances which would require the PI to terminate a subject's participation regardless of his or her consent?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
A statement that identifiers might be removed from the identifiable private information or identifiable biospecimens and that, after such removal, the information or biospecimens could be used for future research studies or distributed to another investigator for future research studies without additional informed consent	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
A statement that the subject's information or biospecimens collected as part of the research, even if identifiers are removed, will not be used or distributed for future research studies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
A statement that biospecimens (even after identifiers are removed) may (or may not) be used for commercial profit and whether subjects will or will not share in the profit.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
A statement that clinically relevant research results will or will not be provided to subjects.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
A statement indicating whether or not the research project will or will not include whole genome sequencing.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is the consent document written in lay language (Recommended 8th grade level)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

X. PROJECT INFORMATION: (If you answer Yes to any of the questions below, you should explain them in one of the paragraphs above)

- Yes No A. Deception of subjects? If "YES" explain why this is necessary.
- Yes No B. Shock or other forms of punishment
- Yes No C. Sexually explicit materials or sexual experience
- Yes No D. Sexual orientation
- Yes No E. Sexual abuse
- Yes No F. Handling of money or other valuable commodities
- Yes No G. Extraction or use of blood, other bodily fluids, or tissues (if "yes", you must comply with facility and handling protections detailed in the 5th Edition of the Biosafety in Biomedical Laboratories (BMBL))
- Yes No H. Questions about any kind of illegal or illicit activity
- Yes No I. Questions about protected health information as defined by HIPAA
- Yes No J. Purposeful creation of anxiety
- Yes No K. Any procedure that might be viewed as invasion of privacy
- Yes No L. Physical exercise or stress
- Yes No M. Administration of substances (food, drugs, etc.) to subjects
- Yes No N. Any procedure that might place subjects at risk

- Yes No O. Will there be any use of Radioactive materials and/or use of Radioactive producing machines
- Yes No P. Any form of potential abuse; i.e., psychological, physical, sexual
- Yes No Q. Is there potential for the data from this project to be published in a journal, presented at a conference, etc?
- Yes No R. Use of surveys or questionnaires for data collection. **Copies should be submitted to comply@k-state.edu with your application.**
- Yes No S. Is this a Clinical Trial? (one or more human subjects are prospectively assigned to one or more interventions (which may include placebo or other control) to evaluate the effects of the interventions on biomedical or behavioral health-related outcomes.)

XI. SUBJECT INFORMATION: (If you answer yes to any of the questions below, you should explain them in one of the paragraphs above)

- Yes No a. Under 18 years of age (these subjects require parental or guardian consent)
- Yes No b. Over 65 years of age
- Yes No c. Minorities as target population
- Yes No d. Physically or mentally disabled
- Yes No e. Economically or educationally disadvantaged
- Yes No f. Unable to provide their own legal informed consent
- Yes No g. Pregnant females as target population
- Yes No h. Victims
- Yes No i. Subjects in institutions (e.g., prisons, nursing homes, halfway houses)
- Yes No j. Are subjects likely to be vulnerable to coercion or undue influence
- Yes No k. Is this international research? If yes, provide details as to if OHRP regulations apply in or near the area you intend to conduct research or if you have contacted individuals for applicable regulations to human subject research.
- Yes No l. Are research subjects in this activity students recruited from university classes or volunteer pools? If so, do you have a reasonable alternative(s) to participation as a research subject in your project, i.e., another activity such as writing or reading that would serve to protect students from unfair pressure or coercion to participate in this project? If you answered this question "Yes," explain any alternatives options for class credit for potential human subject volunteers in your study. (It is also important to remember that: Students must be free to choose not to participate in research that they have signed up for at any time without penalty. Communication of their decision can be conveyed in any manner, to include simply not showing up for the research.)
- Yes No m. Is audio from the subjects recorded? If yes, how do you plan to protect the recorded information and mitigate any additional risks?
- Yes No n. Are research subjects' images being recorded (video taped, digitally recorded, photographed)? If yes, how do you plan to protect the recorded information and mitigate any additional risks?

XII. FDA ACTIVITIES: Answer the following questions about potential FDA regulated activities:

- Yes No a. Is this a Clinical Trial?
- Yes No b. Are you using an FDA approved drug/device/diagnostic test?
- Yes No c. Does this activity involve the use of FDA-Regulated products? (biological products, color additives, food additives, human drugs, etc.)
- Yes No d. Has the protocol been submitted to the FDA, or are there plans to submit it to the FDA?
- Yes No e. Have you submitted an FDA form 3454 or 3455 (conflict of interest)?

XIII. CONFLICT OF INTEREST: Concerns have been growing that financial interests in research may threaten the safety and rights of human research subjects. Financial interests are not in themselves prohibited and may well be appropriate and legitimate. Not all financial interests cause Conflict of Interest (COI) or harm to human subjects. However, to the extent that financial interests may affect the welfare of human subjects in research, IRB's, institutions, and investigators must consider what actions regarding financial interests may be necessary to protect human subjects. Please answer the following questions:

- Yes No a. Do you or the institution have any proprietary interest in a potential product of this research, including patents, trademarks, copyrights, or licensing agreements?

- Yes No b. Do you have an equity interest in the research sponsor (publicly held or a non-publicly held company)?
- Yes No c. Do you receive significant payments of other sorts, eg., grants, equipment, retainers for consultation and/or honoraria from the sponsor of this research?
- Yes No d. Do you receive payment per participant or incentive payments?
- e. If you answered yes to any of the above questions, please provide adequate explanatory information so the IRB can assess any potential COI indicated above.

XIV. PROJECT COLLABORATORS:

A. KSU Collaborators: List anyone affiliated with KSU who is collecting or analyzing data: (list all collaborators on the project, including co-principal investigators, undergraduate and graduate students).

Name:	Department:	Campus Phone:	Campus E-mail:
<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>
<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>
<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>

Add Row

Delete Row

B. Non-KSU Collaborators: List all collaborators on your human subjects research project not affiliated with KSU in the spaces below. KSU has negotiated an Assurance with the Office for Human Research Protections (OHRP), the federal office responsible for oversight of research involving human subjects.

Name:	Organization:	Phone:	Institutional E-mail:
<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>
<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>
<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>

Add Row

Delete Row

C. Does your non-KSU collaborator's organization have an Assurance with OHRP? (for Federalwide Assurance listings of other institutions, please reference the OHRP website under Assurance Information at: <http://ohrp.cit.nih.gov/search>).

Yes No If yes, Collaborator's FWA #

Is your non-KSU collaborator's IRB reviewing this proposal?

Yes No If yes, IRB approval #

Describe the non-KSU collaborator’s role in the research activity.

XV. IRB Training:

- A. The URCO must have a copy of the Unaffiliated Investigator Agreement on file for each non-KSU collaborator who is not covered by their own IRB and assurance with OHRP. When research involving human subjects includes collaborators who are not employees or agents of KSU the activities of those unaffiliated individuals may be covered under the KSU Assurance only in accordance with a formal, written agreement of commitment to relevant human subject protection policies and IRB oversight. The Unaffiliated Investigators Agreement can be found and downloaded at <http://www.k-state.edu/research/comply/irb/forms>

Online Training

TRAINING REQUIREMENTS HAVE RECENTLY CHANGED

The IRB has mandatory training requirements prior to protocol approval. Training is now offered through the Collaborative Institutional Training Initiative (CITI) Program. Instructions for registration and access to training are on the URCO website <http://www.k-state.edu/research/comply/>.

Use the check boxes below to select the training courses that apply to this application. If you have any questions about training, contact URCO at comply@ksu.edu, or (785) 532-3224.

Mandatory Training

Required for all Principal Investigators, research staff and students

- Responsible Conduct of Research
- IRB core modules (IRB Researchers and personnel on IRB protocols)

Required (Provost-mandated) for all full-time K-State employees

- Export Compliance

Required procedure-specific training (check all that apply to this protocol):

- International Research Research in Public Elementary and Secondary Schools Research with Children
- Research with Prisoners Internet Research Vulnerable Subjects - Research Involving Workers/Employees
- Research with Subjects with Physical Disabilities and Impairments Illegal Activities or Undocument Status in Human Research
- Gender and Sexuality Diversity in Human Research Research with human blood, body fluids, or tissues
- Research with Older Adults

All new personnel or personnel with expired training are required to register for CITI and take the new training requirements. If you previously completed online IRB modules, your training status will remain current until it expires. URCO will verify training from the previous system as well as the new system prior to approval of any protocol.

INVESTIGATOR ASSURANCE FOR RESEARCH INVOLVING HUMAN SUBJECTS

(Print this page separately because it requires a signature by the PI.)

P.I. Name: Ryan Sharp

Title of Project: Marion County Park and Lake User Survey in Marion, KS

XVI. **ASSURANCES:** As the Principal Investigator on this protocol, I provide assurances for the following:

- A. **Research Involving Human Subjects:** This project will be performed in the manner described in this proposal, and in accordance with the Federalwide Assurance FWA00000865 approved for Kansas State University available at <http://www.hhs.gov/ohrp/assurances/forms/filasurt.html>, applicable laws, regulations, and guidelines. Any proposed deviation or modification from the procedures detailed herein must be submitted to the IRB, and be approved by the Committee for Research Involving Human Subjects (IRB) prior to implementation.
- B. **Training:** I assure that all personnel working with human subjects described in this protocol are technically competent for the role described for them, and have completed the required IRB training accessed via the URCO website at: <http://www.k-state.edu/research/comply/irb/training>. I understand that no proposals will receive final IRB approval until the URCO has documentation of completion of training by all appropriate personnel.
- C. **Extramural Funding:** If funded by an extramural source, I assure that this application accurately reflects all procedures involving human subjects as described in the grant/contract proposal to the funding agency. I also assure that I will notify the IRB/URCO, the KSU PreAward Services, and the funding/contract entity if there are modifications or changes made to the protocol after the initial submission to the funding agency.
- D. **Study Duration:** I understand that it is the responsibility of the Committee for Research Involving Human Subjects (IRB) to perform continuing reviews of human subjects research as necessary. I also understand that as continuing reviews are conducted, it is my responsibility to provide timely and accurate review or update information when requested, to include notification of the IRB/URCO when my study is changed or completed.
- E. **Conflict of Interest:** I assure that I have accurately described (in this application) any potential Conflict of Interest that my collaborators, the University, or I may have in association with this proposed research activity.
- F. **Adverse Event Reporting:** I assure that I will promptly report to the IRB / URCO any unanticipated problems involving risks to subjects or others that involve the protocol as approved. Unanticipated or Adverse Event Form is located on the URCO website at: <http://www.k-state.edu/research/comply/irb/forms>. In the case of a serious event, the Unanticipated or Adverse Events Form may follow a phone call or email contact with the URCO.
- G. **Accuracy:** I assure that the information herein provided to the Committee for Human Subjects Research is to the best of my knowledge complete and accurate.

You may sign this form using a digital signature. DO NOT sign the form until it has been completed.

You cannot edit the form entries once the form has been digitally signed. If you are making revisions to a previously signed form, right-click the digital signature and select Clear to remove the signature (this can only be done by the person who originally digitally signed the form). Forms that have not been signed will not be accepted.

P.I. Signature:

Date: