

FEASIBILITY ANALYSIS OF THE SERVICE DESIGN FOR THE GEOTOURISM
PROGRAM IN THE LAKE CAMP AREA OF ALASKA

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A
PROJECT

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By

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Abstract

Alaska, in all its majestic and awe inspiring beauty, has an abundance of culture, wildlife and scenery to offer to residents and non-residents. Tourism is a vital contributor to the economic benefit to the State of Alaska. Many of the existing tour programs, although contribute to the local economy, do not facilitate rural community growth or support.

There is much untapped potential for tourism programs in rural communities that can be beneficial to the local communities while preserving the cultural, natural and geographical wonders.

This report is a feasibility analysis for a geotourism program in the Camp Lake area of Southwest Alaska. This report demonstrates the possible sustainability of a service concept for such a geotourism program.

KEYWORDS: Geotourism, Service design, Service Concept, Feasibility, KNP

Table of Contents

Signature Page	i
Title Page	ii
Acknowledgements	iii
Abstract	iv
Table of Contents	v
List of Exhibits.....	vii
List of Appendices	ix
Chapter 1 Introduction	1
1.1 Problem Statement	1
1.2 Scope	2
1.3 Significance	2
1.4 Research Question.....	3
1.5 Assumptions.....	3
Chapter 2 Literature Review	5
2.1 Geotourism Defined	5
2.2 Service Design Defined.....	6
2.3 Service Concept Defined.....	7
2.4 How the Service Concept Useful	8
Chapter 3 Methodology	11
3.1 Methodology	11
3.2 Methodology Assumptions	11

Chapter 4 Lake Camp Geotourism Program.....	13
4.1 Lake Camp Area Background Information.....	13
4.2 Lake Camp Geotourism Program Information.....	14
4.3 Current Geotourism Program	14
4.4 Proposed Lake Camp Geotourism	16
Chapter 5 Model, Analysis, Results.....	19
5.1 Visitor Population Projections	19
5.2 Optimization of Accommodations by Projected Visitor Population.....	21
5.3 Feasibility of Service Design Concepts	23
5.4 Results/Analysis	23
Chapter 6 Conclusions and Recommendations.....	37
6.1 Conclusions	37
6.2 Contribution	38
6.3 Future Work	39
References.....	41

List of Exhibits

Exhibit 1: Service Concept	8
Exhibit 2: Service Recovery Model	9
Exhibit 3: Katmai National Park Timeline	15
Exhibit 4: Current Katmai National Park Tour Packages	16
Exhibit 5: KNP Annual Visitors, 1998-2014	19
Exhibit 6: KNP Annual Visitors, 1980-2014	20
Exhibit 8: Visitors by Available Accommodations	21
Exhibit 9: Expected Annual Visitors	22
Exhibit 10: Estimated Visitors by Duration	23
Exhibit 11: Alternative Two Construction Cost Estimate	24
Exhibit 12: Cabin Capacity	25
Exhibit 13: Alternative 2 Revenue Potential	25
Exhibit 14: Alternative 3a Optimistic Construction Cost Estimate	26
Exhibit 15: Alternative 3b Neutral Construction Cost Estimate	27
Exhibit 16: Alternative 3c Optimistic Construction Cost Estimate	28
Exhibit 17: Required Lodge Capacity Based on Expected Visitors	29
Exhibit 18: Potential Lodge Revenues	30
Exhibit 19: Alternative 2 Estimated Employee Annual Wages	31
Exhibit 20: Alternative 3a Estimated Employee Annual Wages	32
Exhibit 21: Alternative 3b Neutral Employee Annual Wages	33
Exhibit 22: 3c Pessimistic Employee Annual Wages	34

Exhibit 23: Present Worth Evaluation of Alternatives 35

List of Appendices

Appendix A: Population Data and Projections	43
Appendix B: Existing Tour Packages	47
Appendix C: Estimated Visitor Capacities Based on Projections	51
Appendix D: Construction Cost Estimates	55
Appendix E: Estimated Annual Employee Costs	61
Appendix F: Potential Revenue by Alternative	67
Appendix G: Present Worth Analysis.....	71
Appendix H: Original Architect's Cost Estimates.....	75
Appendix I: Architect's Rendering of Cabins	79
Appendix J: Presentation Slides.....	83

Chapter 1 Introduction

1.1 Problem Statement

According to the State of Alaska, Alaska Department of Commerce, Community and Economic Development, Alaskan visitors reached an all-time record high from May 2013 to April 2014 with 1.9 million visitors (ADCCED, 2014, *Economic Impact of Alaska's Visitors*). Of those visitors, nearly 30,000 visited the Katmai National Park and Reserve as provided by the National Park Service (NPS, 2014, Katmai National Park and Preserve). Tourism has and will continue to be a vital contributor to Alaska's economic industry.

The Katmai National Park (KNP) encompasses over four million acres in Alaska's Southwest Region and is located 230 air miles from Anchorage, Alaska. The KNP is an active volcanic region and is home to an abundance of wildlife including brown bear, moose, caribou, fox, migratory birds, anadromous fish and local flora and fauna as well as the Native Alaskan Yupik people. The KNP is accessible by air taxi via Anchorage, Dillingham, Homer, King Salmon and Kodiak with boat access attainable via the Naknek River from the communities of Naknek and King Salmon.

Current tour programs in the area are limited to several privately owned sport fishing and bear viewing outfits which were established in the early 1950s (NPS, 2014). The majority of these outfits operate out of Anchorage, Alaska. Local over-night accommodations include a lodge and several cabins in the KNP which are privately owned by Katmailand, Incorporated. Other available accommodations include a public tent camping site within the KNP operated by the National Park Service (NPS, 2014). Also, there are several low capacity bed and breakfast facilities in King Salmon available to KNP visitors (TA, 2014, Hotels in King Salmon, Alaska).

These existing programs only offer wildlife viewing such as bear viewing and chartered fishing services accompanied by guides. There is minimal positive economic

impact to the nearby communities of King Salmon and Naknek in terms of employment or purchased services or goods.

This research will focus on the feasibility analysis of developing a geotourism program in the KNP via Lake Camp in Naknek, Alaska.

1.2 Scope

The scope of this research is to contribute to the Lake Camp stakeholder the recommendation of feasibility for the development of the Lake Camp Geotourism Program. Additionally, this feasibility analysis will identify core requirements and cost drivers for future use in developing a business plan. Three general questions are addressed, with the primary research question being item 4 below.

1. What is Geotourism and is there Geotourism in Alaska?
2. What is Service Design?
3. What are the major decision making criteria (cost drivers) in developing a geotourism program in the Lake Camp area?
4. Is a geotourism program in the Lake Camp area recommended?

1.3 Significance

The significance of this research is that it provides a recommendation of feasibility through comparative cradle to gate analysis applied in the Alaskan tourism industry. The methodology utilized in this research indicates that these methodologies are not limited to Engineering or Science Management but rather all business management and decision making analysis. Decision Making Analysis is a vital activity in service concept development and production. This research will identify the major decision making criteria, or the major cost drivers which will be used to determine the feasibility. This research will also provide the suggestion of required future work in order for this project to be viable for development. A sustainable geotourism program in the Camp

Lake region can prove to be beneficial to the environment, most importantly, the local people and economic vitality of the Camp Lake region.

1.4 Research Question

Is there a service design concept for the development of the Lake Camp geotourism program that can be sustainable and also beneficial to the Lake Camp area and what is the service design concept?

1.5 Assumptions

A major assumption of this research paper is that funding and geographical resources for the development of the Lake Camp Geotourism Program is available and not part of this research scope. Also assumed in this analysis is that the cost estimates provided by the assigned Architectural and Engineer are accurate and will serve as the financial foundational basis of this feasibility analysis.

Chapter 2 Literature Review

The literature review is critical to this project. The literature will define what geotourism is and how it can be a catalyst for a healthy community and all entailed geographic entities. Also important is the identification of and the understanding of service design and its concept.

Literature primarily consisted of academic journals, national and state databases, and state statistics. Several primary organizations provided valuable information. These organizations and the key components include:

- Alaska Department of Commerce, Community, and Economic Development (ADCCED) – Reports containing general tourism statistics and community information in Alaska.
- National Geographic (NG) – Information on current local and global geotourism programs.
- National Park Service (NPS) – Information including visitor statistics, sights of interest, concessioners and regulatory requirements.

2.1 Geotourism Defined

Defining the term *Geotourism* has been relatively complicated and is still highly debatable among many resources. Newsome, D., & Dowling, Ross K. (2010), defined geotourism as the physical act of travelling to and appreciating natural landscapes and geological phenomena. According to Hose (2011), the first published definition for geotourism was not until 1995. National Geographic (undated) defines Geotourism as “... tourism that sustains or enhances the geographical character of a place – its environment, culture, aesthetics, heritage, and the well-being of its residents.”

According to Newsom, David, Dowling, Ross K. (2010), there are several types of tourism already defined; cultural tourism, ecotourism, adventure tourism and

geotourism. It is their argument that all of these tourisms coexists and that geotourism is strictly the action of visiting a location for geological and landscape appeal without the intended purpose of entire system sustainability.

Later, Newsome, David, and Dowling, Ross K., (2010) *Global Geotourism Perspectives*, redefined geotourism as tourism with a primary focus in geological attractions while fostering cultural understanding and conservation.

Although there is still debate on the exact definition of geotourism this research will follow the definition provided by National Geographic (2014), for the intended purpose that a tour program in the Camp Lake region be sustainable, supportive, and conducive to improving and protecting the character of the region.

Geotourism enhances the geographic location by providing awareness to preserve and protect natural geographical and geological locations. It also enhances the culture by creating awareness by the sharing of cultural attributes – the employment of local citizens and the utilization of local services builds sustainability. These activities, when deployed appropriately can facilitate the stewardship for a healthy and successful region wide program.

Geotourism in practice is relatively new. Using an internet web search yields limited sources; however, the National Geographic Maps identifies locations that are distinguished as geotourism locations, including but not limited to; Yellowstone National Park, Sierra Nevada, Redwood Coast and Western Balkans, NPS (2014). Also noteworthy, the National Geographic is a supporter of Geotourism Programs and they provide assistance on upon request.

2.2 Service Design Defined

Service design is the methodology of designing services with the purpose of meeting customer needs in order to gain and sustain a competitive lead of a particular

service industry. Service design activities include the planning and organizing of people, resources, infrastructure and materials required to provide a service. Service design science is relatively young in the service sector but the limited research defines what exactly service design is and the processes involved to reach the preferred service outcome. Basically, service design is created by defining the service concept and organizing the resources required to convey that concept via service delivery.

According to Goldstein, Johnston, Duffy and Rao (2002), the service concept plays an integral role in new service design and development and is the catalyst for decision making, from large decisions to small decisions and from the strategic to operational levels.

2.3 Service Concept Defined

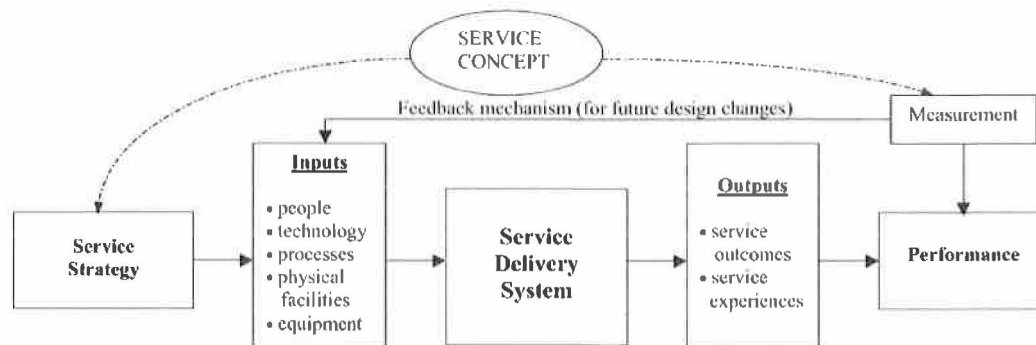
Service concept is the idea, or the preconceived notion, that individuals create either by imagination or from some bit of information they have received such as illustrations, customer reviews, or articles. In the service industry, these preconceived notions become to be a customer's expectation of services in which they are seeking. If, for any reason, their expectations are not met, they will not have a satisfactory experience or value the service as satisfactory. Therefore, it is important for service providers to create, or facilitate, the service concept to ensure maximum customer satisfaction. This can be accomplished by thorough marketing strategies, customer reviews, and visual illustrations, virtual tours, mobile apps, etc. An abundance and ease of user friendly information tools can drive the service concept, similar to subliminal messages. A failed service concept will guarantee customer dissatisfaction.

The service concept can be thought of as the non-physical and physical components that are integrated to provide the best customer service – much like the physical components that make a physical product. These can include items such as bedding material and colors in a hotel room, quality pamphlets, free necessities such as shampoo and toothpaste, educated tour guides, inter-personnel and inter-department

cohesiveness, only to name a few. There are numerous input components that work in the service concept with only one outcome: customer experience. Once the service concept is defined, it will guide decision making on all levels of services.

It is vital that the service concept is well defined, developed and executed with the customer and stakeholders expectations in consideration. Noted from the research editorial by the Journal of Operations Management: *New Issues and Opportunities in Service Design Research*, is the notion that developed countries have since moved from the *service economy* and into the *experience economy*. Customers place value on their experience rather than only the service, that all intangible items in a service are just as equally important as the physical product.

Exhibit 1: Service Concept



Source: S.M. Goldstein et al./Journal of Operations Management 20 (2002) 121-134

The intention of this project is to develop several service concepts, or scenarios, in which will be subject to the feasibility analysis.

2.4 How the Service Concept Useful

A clearly defined service concept execution can be used for monitoring purposes if measurements and metrics are also defined. These monitoring activities can include customer and stakeholder surveys to identify what services are properly functioning and what services were found to be unsatisfactory. The Project Management Body of

Knowledge (4th Edition), explains how monitoring and controlling activities can help identify areas needing corrective action. Monitoring can also come in the form of disgruntled employees depicted by high employee turn-over rates.

Results from these surveys can provide valuable insight which can be harnessed, digested and reinserted into a modified service concept to meet customer and stakeholder expectations. The resulting modification of the service concept and service delivery is considered service recovery.

Exhibit 2: Service Recovery Model

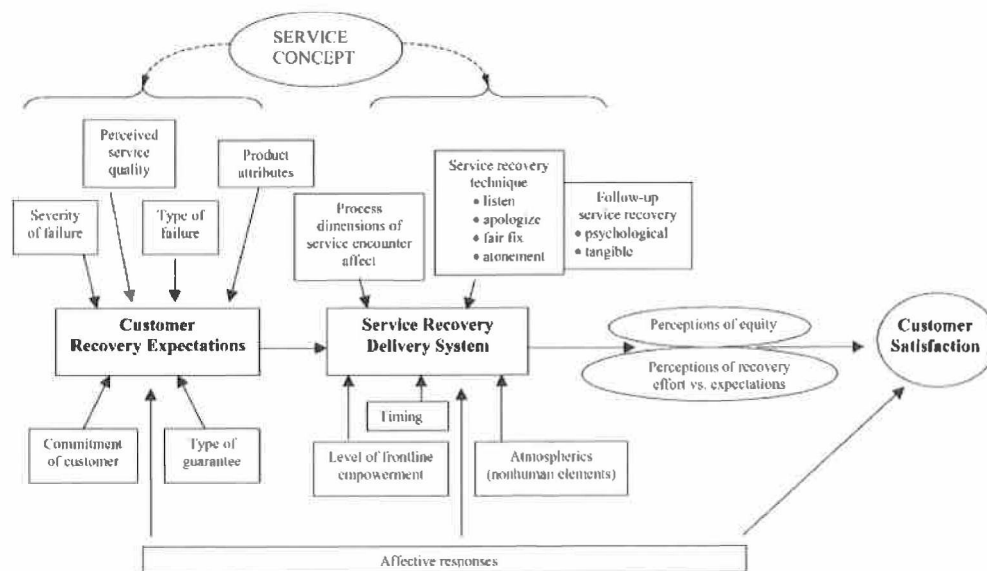


Fig. 3. Proposed service recovery model.

Source: S.M. Goldstein et al./Journal of Operations Management 20 (2002) 121-134

Using the service concept as the epicenter of the service recovery model allows the provider to process feedback and identify the service components which are producing satisfactory and unsatisfactory customer experiences for which can be embellished or improved to meet customer expectations. Customer satisfaction will be at the greatest when a service level concept is optimized.

Chapter 3 Methodology

3.1 Methodology

This project scope will analyze several service concept scenarios befitting to the Lake Camp Geotourism Program to conclude and recommend the most feasible concept. This analysis was conducted in several steps listed as follows:

Step 1: Conduct a literature survey to collect data related to existing geotourism programs and current tour programs in the Katmai National Park area and general information of the proposed location.

Step 2: Gather cost data and/or make assumptions of construction costs to implement each scenario.

Step 3: Perform future visitor projections to the Katmai National Park area using historical visitor statistics.

Step 4: Calculate present worth.

Step 5: Provide conclusion, future work and recommendation.

Data used in the analysis include data retrieved from the National Park Service, National Geographic and the State of Alaska. Each scenario is analyzed including a financial benefit-to-cost analysis, net present value, and risk of uncertainty.

3.2 Methodology Assumptions

A major assumption in regards to the service concept analysis is that the provided cost estimate, prepared by the volunteer committee's architectural and engineering consultant, Bezek Durst Seiser, is accurate. Also assumed is the projected horizon of KNP visitors based on historical data. Data was assumed if concrete data was not available and is identified if necessary. Actual life cycle of the proposed alternatives is

unknown and cannot be determined so this project will evaluate the alternatives used on a Cradle-to-Gate analysis.

Chapter 4 Lake Camp Geotourism Program

The following section serves to provide information specifically related to the proposed Camp Lake Ecotourism Program and to provide an analysis of financial data in direct regard to the service design of the Lake Camp Geotourism Program.

4.1 Lake Camp Area Background Information

The ultimate goal of the Lake Camp Geotourism Program is to develop a visitor center, tour program and community service infrastructure at the Lake Camp area of Naknek, just outside of the transportation hub of King Salmon, Alaska and corridor to the world renown Katmai National Park and Reserve (KNP).

Katmai National Park and Reserve is located in the Alaska Peninsula, approximately 230 air miles from Anchorage, Alaska. The KNP headquarters is located in the nearest community, King Salmon. The park is accessible by air taxi via Anchorage, Dillingham, Homer, King Salmon and Kodiak. Boat access is attainable via the Naknek River from the communities of King Salmon and Naknek.

The KNP was an active volcanic region and is home to an abundance of wildlife including brown bear, moose, caribou, fox, migratory birds, anadromous fish and local flora and fauna. Alaskan visitors reached an all-time record high from May 2013 to April 2014 with 1.9 million visitors. Of those visitors, it was approximated that 1.5% visited the KNP. According the National Park Service, 29,000 people visited the Katmai National Park in 2013 (NPS, 2014).

The 2014 State of Alaska, Division of Economic Development, (ADCCED, 2014), labor statistics listed the population of King Salmon at 335 persons with 28% Native American population including white, Yup'ik, Alutiiq and Athabascans ancestry. King Salmon is the center hub for the red salmon fishing industry with transportation infrastructure as well as a strong visitor industry. The students of King Salmon attend

school in Naknek located 15-miles away. The United State Air Force constructed an air force base in King Salmon during the start of World War II which has recently been decommissioned and turned into 'care-taker' status.

The 2014 State of Alaska, Division of Economic Development, (ADCCED, 2014), labor statistics listed the population of Naknek at 523 persons with 30% Native American population including white, Yup'ik, Alutiiq and Athabascan ancestry. The economy around Naknek is highly dependent on the fishing industry. According to the State of Alaska, Department of Commerce and Economy Database, Naknek has 12 fishing canneries.

4.2 Lake Camp Geotourism Program Information

The conceptual development team of the Lake Camp Geotourism Program is comprised of a voluntary group of individuals including members of the local Native Corporation, Bristol Bay Native Corporation. Volunteers members include individuals from the University of Alaska, architectural and engineering firms, local and federal native corporations, and local residents of King Salmon and Naknek.

4.3 Current Geotourism Program

The National Park Service regulates commercial services within its park with the intent to protect the environmental and historical characteristics of the parks by the National Park Service Organic Act and its regulations and policies. This does not mean that the NPS discourages commercial activities but instead encourages such activities in a manner that is conducive to protecting the natural environment and historical aspects of the region. Prospective concessioners can apply for a concession from the National Park Service.

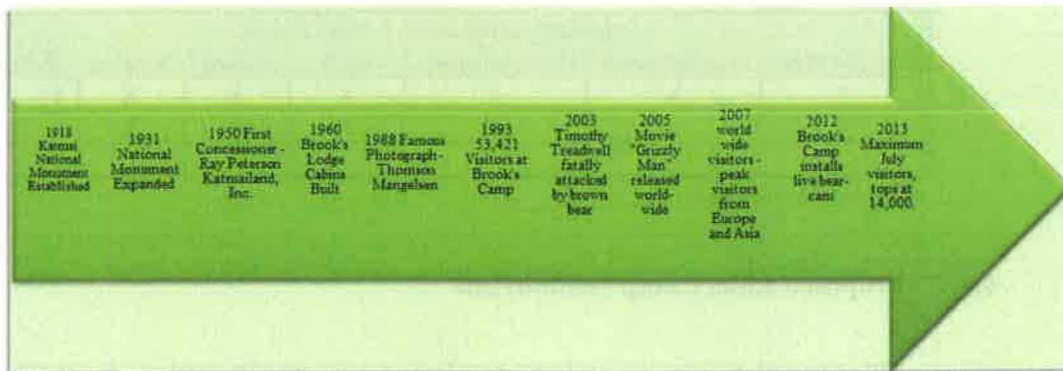
Currently there are nine approved concessioners in the KNP which include guide services, such as air taxi and guided fishing groups, retail, equipment rentals and

outfitters, food and beverage services, and lodging. Of these nine concessioners only one concessioner provides lodging. The one approved concessioner providing lodging is KatmaiLand, Inc. who has held the concession since 1950.

General search engines for current tour and guiding programs in the area include several privately owned and operated outfitters. A good portion of KNP service providers are based from Anchorage, Alaska or other nearby communities such as Homer or Kodiak. Visitors can purchase day trips into the KNP for bear and wildlife viewing and day fishing. Day trips usually originate from Anchorage and the flights arrive one and a half hours later into the KNP directly via float plane. Some packages available include three or four night accommodations at one of the three lodges operated by KatmaiLand, Inc. or camping facilities operated by the NPS.

In an attempt to gather notable events at KNP, the article *In Katmai National Park, Alaska, up close with bear pursuing salmon*, Los Angeles Times (2014), provided an experience regarding bear viewing and how reservations were sold out within a three-hour time period. The following exhibit was created by information attained from this article.

Exhibit 3: Katmai National Park Timeline



The table below summarizes several tour, guided fishing, and accommodation packages currently available with their associated prices.

Exhibit 4: Current Katmai National Park Tour Packages

Air Adventures - Anchorage, Alaska						
Duration, Days	Transportation	Accommodations	Guide	Fishing	Viewing	Cost, PP
2	X	X	X	X	X	\$ 1,995
3	X	X	X	X		\$ 2,885

Source: www.airventuresalaska.com/airventures/trip_packages.html

Alaska West Air						
Duration, Days	Transportation	Accommodations	Guide	Fishing	Viewing	Cost, PP
0	X		X		X	\$ 640

Source: www.alaskawestair.com/bear_viewing.html

Katmailand - Brooks Lodge Katmai, Alaska						
Duration, Days	Transportation	Accommodations	Guide	Fishing	Viewing	Cost, PP
0	X		X		X	\$ 749
1	X	X	X		X	\$ 1,156
2	X	X	X		X	\$ 1,419
3	X	X	X		X	\$ 1,880
3	X		X	X		\$ 1,810
3	X	X	X	X		\$ 2,170

Source: www.katmailand.com

Katmailand - Grosvenor Lodge Katmai, Alaska						
Duration, Days	Transportation	Accommodations	Guide	Fishing	Viewing	Cost, PP
3	X	X	X	X		\$ 2,990
4	X	X	X	X		\$ 3,885
7	X	X	X	X		\$ 4,880

Source: www.katmailand.com

Katmailand - Kulik Lodge Katmai, Alaska						
Duration, Days	Transportation	Accommodations	Guide	Fishing	Viewing	Cost, PP
3	X	X	X	X	X	\$ 3,100
4	X	X	X	X	X	\$ 3,965

Source: www.katmailand.com

4.4 Proposed Lake Camp Geotourism

This project defines several service design concept alternatives for the Lake Camp Geotourism Program including a “Do Nothing” Alternative. The service concept alternatives are as follows:

Alternative 1 – Do Nothing Alternative

Alternative 2 – Geotourism Program Including Cabins

This alternative will construct and/or install critical infrastructure such as a dock for passenger boats, access road, boardwalk, ground transportation vehicles, visitor center and five, double occupancy cabins. These items are defined as critical infrastructure in order to provide the minimum.

Alternative 3 – Geotourism Program Including Lodge

This alternative will construct and/or install critical infrastructure in addition the construction of a 24 double occupancy room lodge. This lodge would be luxurious in nature providing 24 double occupancy rooms, luxurious materials similar to many wilderness lodges in Alaska with amenities such as a spa, maaki (steam-room), multi-purpose room, exercise facilities, workshop, and restaurant and retail services.

The volunteer architectural firm, Bezek Durst Seiser (BDS), provided a conceptual rendering and cost estimate for the construction of five cabins. Each cabin is 560-square feet intended for double occupancy.

BDS also provided a construction cost estimate for a 24, double occupancy room lodge proposed in Alternative 3.

The proposed cultural component will employ local native residents to provide tour and hospitality services. The primary Native American group in the Lake Camp region is the Yup'ik Eskimo tribe. The Yup'ik are a modern tribe while still practicing traditional subsistence lifestyles. They are greatly dependent on marine life, primarily the salmon. Their culture illustrates their appreciation to the salmon which can be seen in ceremonies, and artwork. The proposed cultural segment includes story-telling, singing and dancing, displays and tutorials of native crafts such as oil-lamps, traditional fishing gear, tool making, food preparation, and traditional religious beliefs. The Yup'ik culture

has a traditional belief system which includes human, animals and spirits. Much like other Alaskan communities, there has been the introduction to Russian Orthodoxy which is still practiced by the local residents.

The geographical component would include wildlife viewing as well as experiencing the beautiful landscape with its glaciers, tundra and wildflowers. Wildlife includes moose, bear, fox, caribou and migratory birds. Also included would be a tour of the infamous Valley of 10,000 Smokes, a geological remnant of historical volcanic activity. Visitors could also expect to participate in salmon fishing during the approved seasons. Fish runs include rainbow trout, arctic grayling, char, lake trout, northern pike, king salmon, sockeye salmon, silver salmon, chum and pink salmon.

The proposed service design concepts should not be limited in scope but explored without boundaries. The proposed cultural component will enhance the experience customers receive in addition to the experiences of wildlife and geographical tourism.

The facility will be staffed with local residents who will provide food preparation and turn down services, story-telling, and guided tours. Employing local residents to provide these services is vital to providing the overall service concept, for the customers and for the community, at minimum. Guides will lead tour groups through the Valley of 10,000 Smokes, through glaciers, wildlife viewing and fishing.

The potential for tour activities should not be dismissed during the winter as winter activities can still commence at the Lake Camp Geotourism Program Facilities. Winter activities can include snowshoeing, aurora viewing, wedding receptions, corporate and public receptions, and youth program activities. The potential exists for a variety of winter activities that can contribute to the sustainability of the proposed geotourism program.

Chapter 5 Model, Analysis, Results

5.1 Visitor Population Projections

Projecting the possible visitor population is important in determining the feasibility of the proposed Lake Camp Geotourism Program. Historical visitor population for the Katmai National park was obtained from the National Park Service, (2014). Population data was analyzed looking at three spans: 15 year, 30 year, and 45 years. This was completed to account for missing visitor data or outlier figures experienced during low visitor seasons (see years 1995 and 2008). These low visitor seasons could be an effect from economic challenges such as the economic recession of 2008 or the lack of visitor data records such as 1995.

Exhibit 5: KNP Annual Visitors, 1998-2014

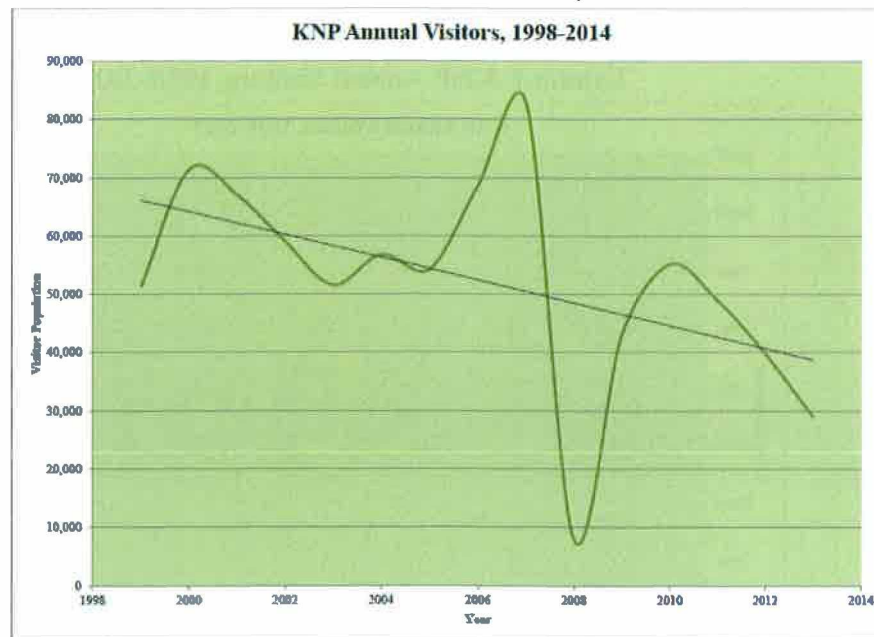


Exhibit 6: KNP Annual Visitors, 1980-2014

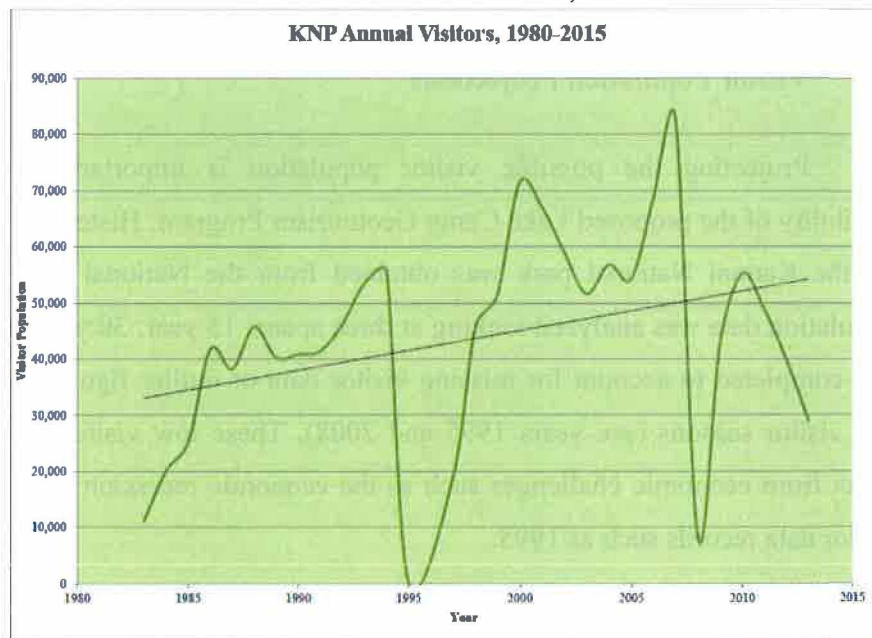
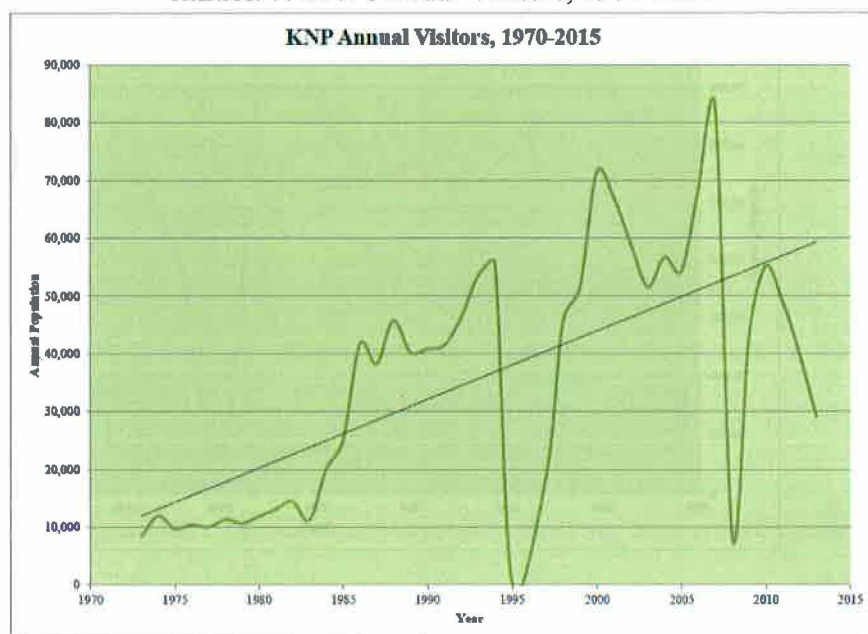


Exhibit 7: KNP Annual Visitors, 1970-2014



According to the Alaska Department of Commerce, Community, and Economic Development, approximately 1.5% of visitors to the State of Alaska visit the Katmai

National Park (ADCCED, 2014). It is suspected that this is due to the lack of infrastructure to support a large visiting population. Facilities that provide accommodations typically book a year in advance and employ a ‘lottery’ for those wanting to visit the KNP. The proposed Lake Camp Geotourism program may increase the amount of visitors to the KNP area by having the capacity to accommodate a larger visitor population, thus benefitting local and state economy as visitors pass through major Alaskan transportation hubs while traversing to the KNP.

5.2 Optimization of Accommodations by Projected Visitor Population

Also vital in determining the feasibility of the Lake Camp Geotourism Program is the optimization of facilities to be provided. Internet based search engines provided the current accommodation levels available in the Katmai National Park and are summarized in Exhibit 8. This provided the maximum number of visitor capacity utilizing existing facilities. The table also provides the duration of current accommodation packages. It is important to recognize that a number of these facilities are only utilized for sport fishing purposes, but still provides a glimpse into how packages are optimized for the maximum number of visitors. The Lake Camp proposes three tour options by duration: 3-day, 4-day, and a 7-day.

Exhibit 8: Visitors by Available Accommodations

Duration	Air Adventures	Brooks Lodge⁺	Grosvenor Lodge⁺	Kulik Lodge⁺	Total
Weekly	6	128	18	96	248
Annual	72	768	288	1536	2664

* Operated By Katmailand, Inc.

Exhibit 8 illustrates that there is enough lodging capacity for approximately 3,000 visitors per year given the current lodging facilities. According to the data found, it is obvious that approximately 97% of visitors who over-night in the KNP utilize Katmailand, Incorporated. What is not shown is the number of visitors to the park who do

not use any overnight accommodations such as visitors who participate in day trips, public camping, or other resources not identified.

The estimated potential visitor population was derived by using historical visitor population data obtained by the NPS website (NPS, 2014). A regression analysis was conducted to identify a visitor population by three criteria: Optimistic, Neutral, and Pessimistic.

Exhibit 9: Expected Annual Visitors

Expected Annual Visitors		
Optimistic:	82634	All-Time-High, 2007
Neutral:	53806	Mean
Pessimistic:	24977	Historical Average
Source: National Park Service (1904 to Present)		

The optimistic population was selected as the all-time maximum visitor population which occurred in 2007. Perhaps it is coincidental but this was two years after the world wide release of the movie *Grizzly Man*, which documented the life of Timothy Treadwell who was fatally attacked by a brown bear in KNP, (LAT, 2014).

The neutral population was selected as the mean of the historical maximum and the historical average visitor count.

The pessimistic population was selected as the historical visitor population average. This may be a safe assumption to make given the ebb and flow of historical visitors to the KNP.

This analysis assumed that 20% of the visiting population to the KNP will utilize services from the Lake Camp Geotourism Program. Day trips were not included in this feasibility analysis. Additionally, it was estimated how many visitors will participate in a 3-day, 4-day or 7-day package.

Exhibit 10: Estimated Visitors by Duration

	Visitors	3 Day	4 Day	7 Day	Winter	Others
Optimistic:	16527	25%	20%	15%	20%	20%
Neutral:	10761	25%	20%	15%	20%	20%
Pessimistic:	4995	25%	20%	15%	20%	20%

Assume: 20% of Visitors to Katmai will find accommodations with Lake Camp

	Visitors	3 Day	4 Day	7 Day	Winter	Others	*Peak Season
Optimistic:	16527	4132	3305	2479	3305	3305	9916
Neutral:	10761	2690	2152	1614	2152	2152	6457
Pessimistic:	4995	1249	999	749	999	999	2997

*Peak Season: May - September, 24 weeks

5.3 Feasibility of Service Design Concepts

The intent of this project is to provide the determination of feasibility for service design concept alternatives for the geotourism program in Lake Camp, Alaska. This project comparatively analyzed the three alternatives using a cradle-gate methodology. The actual life-cycle for the proposed alternatives is unknown and cannot be determined, hence using a cradle-gate analysis.

This feasibility analysis utilized the construction cost estimates provided by Eric Spangler, Principal Architect at BDS. When needed, these estimates were modified to include amenities not considered in the original estimate and are identified as modified.

Also included is an assumed cost estimate for annual employee wages for each alternative. These estimates can be found in Appendix E.

5.4 Results/Analysis

Alternative 1 is the *Do Nothing* alternative. The only cost associated with the Do Nothing Alternative is lost opportunity costs which are indefinable.

Alternative 2 includes the installation and/or operation of a boat launch, dock, access road, passenger shuttle bus and boat, and visitor center. The visitor center would include a vestibule, service counter, small kitchen and eating area, and a gift shop. This alternative will also include the installation of five double occupancy cabins. The estimated first costs for Alternative 2 is approximately \$4,400,000.

Exhibit 11: Alternative Two Construction Cost Estimate
Alternative 2 Cost Estimate

First Cost	QTY	Unit	Unit Price	Total
Boat Launch	1	ea	\$50,000	\$50,000
Dock	1	ea	\$150,000	\$150,000
Road	1000	LF	\$200	\$200,000
*Boardwalk	500	LF	\$108	\$54,000
**15% (Design/Admin)	15	%	\$68,100	\$68,100
Shuttle Bus	1	ea	\$125,000	\$125,000
Boat(s)	1	ea	\$225,000	\$150,000
				\$797,100

*VISITOR CENTER	QTY	UNIT	Unit Price	Total
Vestibule	100	SF	\$700	\$70,000
Display Area	200	SF	\$700	\$140,000
Ticket Area	100	SF	\$700	\$70,000
Small Kitchen	200	SF	\$700	\$140,000
Eating Area	600	SF	\$700	\$420,000
Shop	200	SF	\$700	\$140,000
Storage	200	SF	\$700	\$140,000
** (15% (Design/Admin)	15	%	\$168,000	\$168,000
				\$1,288,000

*CABINS	QTY	UNIT	Unit Price	Total
Single Cabin	560	SF	\$700	\$392,000
Total for 5 Cabins	5	ea	\$392,000	\$1,960,000
**15% (Design/Admin)	15	%	\$294,000	\$294,000
				\$2,254,000

* Indicates Estimate Provided by Others

** Indicates Item is Debateable

^ Indicates Estimate Modified

Alternative 2 Cost Estimate Total: \$4,339,100

Optimization of the capacity of the cabins was completed to determine the amount of guests that can be hosted during the peak season using a 3-day, 4-day and 7-day duration. It was assumed only one cabin would be designated as a week-long capacity and the other 4 would be refreshed after 3-days for another round of guests participating in a 4-day package. It is also assumed that the cabins have a double occupancy limit. It is possible that the cabins have a maximum 4 person occupancy not explored in this feasibility analysis but is recommended for future work.

Exhibit 12: Cabin Capacity

Duration	Occupancy		Wks/Season	Total Guests
	2	Guests/Week		
3 Day	4	8	24	192
4 Day	4	8	24	192
7 Day	1	2	24	48
Assume Peak Operations May-September:				432

Using the average cost per person per night for existing tour programs was utilized to determine the potential revenue. The potential annual revenue per season for Alternative 2 is approximately \$1,680,000. This figure does not include gratuities and purchased services or goods.

Exhibit 13: Alternative 2 Revenue Potential

Duration	Guests per	Wkly	Weeks per	Revenue
	Wk	Revenue	Season	
3 Day	8	\$ 24,000	24	\$ 576,000
4 Day	8	\$ 32,000	24	\$ 768,000
7 Day	2	\$ 14,000	24	\$ 336,000
Average Cost Per Person, Per Day: \$				1,000
Total Potential Revenue: \$				1,680,000

Alternative 3, as originally proposed, includes the construction and/or installation and operation of a boat launch, dock, access road, passenger shuttle bus and boat, and the

construction of a 24 guest room lodge. However, the actual feasibility analysis utilizing an Optimistic, Neutral, and Pessimistic Potential Visitor Projection, it was required that the original estimate (24-room capacity) be modified by multipliers to accommodate such visitor traffic and are identified as Alternatives 3a (Optimistic), 3b (Neutral), and 3c (Pessimistic). In either modified Alternative 3, the proposed lodge will boast a welcoming reception area, multipurpose room, spa, exercise room, workshop/craft area, retail, kitchen and dining.

Exhibit 14: Alternative 3a Optimistic Construction Cost Estimate
Alternative 3 Optimistic Cost Estimate

First Cost	QTY	Unit	Unit Price	Total
Boat Launch	1	ea	\$50,000	\$50,000
Dock	1	ea	\$150,000	\$150,000
Road	1000	LF	\$200	\$200,000
*Boardwalk	500	LF	\$108	\$54,000
15% (Design/Admin)	15	%	\$68,100	\$68,100
Shuttle Bus	3	ea	\$125,000	\$375,000
Boat(s)	3	ea	\$225,000	\$675,000
				\$1,572,100

*LODGE	QTY	Unit	Unit Price	Total
Reception - Welcoming	400	SF	\$700	\$280,000
Multipurpose Room	1000	SF	\$700	\$700,000
Spa - Relaxation	1000	SF	\$700	\$700,000
Exercise - Pool/Banya	1500	SF	\$700	\$1,050,000
Rooms, 84 Each	240	SF	\$700	\$14,112,000
Restaurant/Bar	1500	SF	\$700	\$1,050,000
Workshop	1000	SF	\$700	\$700,000
Retail	1000	SF	\$700	\$700,000
Storage/Secure	1000	SF	\$700	\$700,000
Loading Area	100	SF	\$700	\$70,000
Staff Quarters	3000	SF	\$700	\$2,100,000
Administration	500	SF	\$700	\$350,000
Kitchen/Freezer	4000	SF	\$700	\$2,800,000
15% (Design/Admin)	15	%	\$3,796,800	\$3,796,800
*This estimate has been modified in it's entirety				\$29,108,800
Alternative 3 Cost Estimate Total:				\$30,680,900

Exhibit 15: Alternative 3b Neutral Construction Cost Estimate

Alternative 3 Neutral Cost Estimate

First Cost	QTY	Unit	Unit Price	Total
Boat Launch	1	ea	\$50,000	\$50,000
Dock	1	ea	\$150,000	\$150,000
Road	1000	LF	\$200	\$200,000
*Boardwalk	500	LF	\$108	\$54,000
15% (Design/Admin)	15	%	\$68,100	\$68,100
Shuttle Bus	2	ea	\$125,000	\$250,000
Boat(s)	2	ea	\$225,000	\$450,000
				\$1,222,100

*LODGE	QTY	Unit	Unit Price	Total
Reception - Welcoming	600	SF	\$700	\$420,000
Multipurpose Room	750	SF	\$700	\$525,000
Spa - Relaxation	750	SF	\$700	\$525,000
Exercise - Pool/Banya	1250	SF	\$700	\$875,000
Rooms, 54 Each	240	SF	\$700	\$9,072,000
Restaurant/Bar	1250	SF	\$700	\$875,000
Workshop	750	SF	\$700	\$525,000
Retail	1000	SF	\$700	\$700,000
Storage/Secure	1000	SF	\$700	\$700,000
Loading Area	100	SF	\$700	\$70,000
Staff Quarters	2500	SF	\$700	\$1,750,000
Administration	500	SF	\$700	\$350,000
Kitchen/Freezer	3000	SF	\$700	\$2,100,000
15% (Design/Admin)	15	%	\$2,773,050	\$2,773,050
*This estimate has been modified in it's entirety				\$21,260,050
			Alternative 3 Cost Estimate Total:	\$22,482,150

Exhibit 16: Alternative 3c Optimistic Construction Cost Estimate
Alternative 3 Cost Estimate

First Cost	QTY	Unit	Unit Price	Total
Boat Launch	1 ea		\$50,000	\$50,000
Dock	1 ea		\$150,000	\$150,000
Road	1000 LF		\$200	\$200,000
*Boardwalk	500 LF		\$108	\$54,000
**15% (Design/Admin)	15 %		\$68,100	\$68,100
Shuttle Bus	1 ea		\$125,000	\$125,000
Boat(s)	1 ea		\$225,000	\$225,000
				\$872,100

*LODGE	QTY	Unit	Unit Price	Total
Reception - Welcoming	200 SF		\$700	\$140,000
Multipurpose Room	5000 SF		\$700	\$3,500,000
Spa - Relaxation	500 SF		\$700	\$350,000
^Exercise - Pool/Banya	1500 SF		\$700	\$1,050,000
Rooms, 24 Each	240 SF		\$700	\$4,032,000
**Restaurant/Bar	1000 SF		\$700	\$700,000
Workshop	500 SF		\$700	\$350,000
Retail	500 SF		\$700	\$350,000
Storage/Secure	1000 SF		\$700	\$700,000
Loading Area	100 SF		\$700	\$70,000
Staff Quarters	2000 SF		\$700	\$1,400,000
Administration	500 SF		\$700	\$350,000
Kitchen/Freezer	2000 SF		\$700	\$1,400,000
**15% (Design/Admin)	15 %		\$2,158,800	\$2,158,800
* Indicates Estimate Provided by Others				\$16,550,800

** Indicates Item is Debateable

^ Indicates Estimate Modified

Alternative 3 Cost Estimate Total: \$17,422,900

The optimization of the lodge capacity was determined differently than the cabin. Three scenarios were analyzed using the Optimistic, Neutral, and Pessimistic expected visitor populations to determine the number of rooms required to provide services to the each visitor population groups. Also assumed is the number who will participate in a 3-day, 4-day, or 7-day package. It is also assumed that the lodge rooms have a double

occupancy limit. It is possible that the rooms have a maximum 4 person occupancy not explored in this feasibility analysis but is recommended for future work.

Exhibit 17: Required Lodge Capacity Based on Expected Visitors

	Required Lodge Capacity					
	Visitors per Week	Duration of Stay			Max Guests Week	# Rooms Needed
		3 Day	4 Day	7 Day		
Optimistic:	413	103	83	62	165	83
Neutral:	269	67	54	40	107	54
Pessimistic:	125	31	25	19	50	25
Assume Peak Operations May-September:				24	Weeks	

Using an inflated cost per person per night for existing tour programs was utilized to determine the potential revenue. A cost per person per night for all options of Alternative 3 was valued at \$1400 per person per day. This is due to the increased level of service guests can expect when staying at the lodge. The potential annual revenue for each scenario: Optimistic, Neutral, and Pessimistic population per season was calculated and resulted in potential revenues of \$36,120,000, \$23,419,200, and \$10,953,600, respectively. Again, these figures do not include gratuities and purchased services or goods.

Exhibit 18: Potential Lodge Revenues

Potential Revenue Given Optimistic Value of Visitors

Duration	Guests per Wk	Wkly Revenue	Weeks per Season	Revenue
3 Day	103	\$ 432,600	24	\$ 10,382,400
4 Day	83	\$ 464,800	24	\$ 11,155,200
7 Day	62	\$ 607,600	24	\$ 14,582,400
Average Cost Per Person, Per Day: \$				1,400
Total Potential Revenue: \$ 36,120,000				

Potential Revenue Given Neutral Value of Visitors

Duration	Guests per Wk	Wkly Revenue	Weeks per Season	Revenue
3 Day	67	\$ 281,400	24	\$ 6,753,600
4 Day	54	\$ 302,400	24	\$ 7,257,600
7 Day	40	\$ 392,000	24	\$ 9,408,000
Average Cost Per Person, Per Day: \$				1,400
Total Potential Revenue: \$ 23,419,200				

Potential Revenue Given Pessimistic Value of Visitors

Duration	Guests per Wk	Wkly Revenue	Weeks per Season	Revenue
3 Day	31	\$ 130,200	24	\$ 3,124,800
4 Day	25	\$ 140,000	24	\$ 3,360,000
7 Day	19	\$ 186,200	24	\$ 4,468,800
Average Cost Per Person, Per Day: \$				1,400
Total Potential Revenue: \$ 10,953,600				

A rough order of magnitude estimate was completed to determine the annual employee costs. The estimated annual cost for employee wages for Alternatives 2, 3a, 3b, and 3c, are: \$457,000, \$1,841,315, \$1,585,763 and \$979,780, respectively.

Exhibit 19: Alternative 2 Estimated Employee Annual Wages
ALTERNATIVE 2 ESTIMATED EMPLOYEE ANNUAL WAGES

POSITION	#	Wage	Unit	Qty/Week	Weeks/Sea	Hr/Sea	Total Wage
Seasonal							
Housekeeper	1	\$16 hr		40	24	960	\$15,360
Cook	1	\$20 hr		40	24	960	\$19,200
Server	0	\$18 hr		28	24	0	\$0
Reception	0	\$17 hr		40	52	0	\$0
Guides	4	\$30 hr		84	24	8064	\$241,920
Entertainment	2	\$15 hr		14	24	672	\$10,080
Boat/Bus Op	1	\$18 hr		60	24	1440	\$25,920
Museum/Shop	0	\$18 hr		56	24	0	\$0
Prog Coordinator	1	\$30 hr		56	24	1344	\$40,320
Seasonal Total							\$352,800
Full Time							
Program Mngr	1	\$30 hr		20	52	1040	\$31,200
Housekeeper	0	\$16 hr		40	52	0	\$0
Cook	0	\$20 hr		40	52	0	\$0
Server	0	\$18 hr		40	52	0	\$0
Reception	0	\$17 hr		40	52	0	\$0
Bookkeeper	1	\$24 hr		20	52	1040	\$24,960
Maintenance	1	\$20 hr		20	52	1040	\$20,800
Resident Guide	0	\$24 hr		40	52	0	\$0
Entertainment	0	\$15 hr		7	28	0	\$0
20% (Emp Benefits)							\$19,240
Full Time Total							\$96,200
Contractors							
Web Site Manager	1		LS				\$8,000
Contract Total							\$8,000
Employee Wages Total							\$457,000

Exhibit 20: Alternative 3a Estimated Employee Annual Wages

ALTERNATIVE 3a OPTIMISTIC EMPLOYEE ANNUAL WAGES

POSITION	#	Wage	Unit	Qty/Week	Weeks/Sea	Hr/Sea	Total Wage
Seasonal							
Housekeeper	8	\$16 hr		40	24	7680	\$122,880
Cook	6	\$20 hr		56	24	8064	\$161,280
Server	6	\$18 hr		28	24	4032	\$72,576
Reception	2	\$17 hr		40	52	4160	\$70,720
Guides	12	\$30 hr		84	24	24192	\$725,760
Entertainment	6	\$15 hr		14	24	2016	\$30,240
Boat/Bus Op	3	\$18 hr		60	24	4320	\$77,760
Museum/Shop	2	\$18 hr		56	24	2688	\$48,384
Prog Coordinator	2	\$30 hr		56	24	2688	\$80,640
Seasonal Total							\$1,390,240
Full Time							
Program Mngr	1	\$30 hr		40	52	2080	\$62,400
Housekeeper	1	\$16 hr		40	52	2080	\$33,280
Cook	1	\$20 hr		40	52	2080	\$41,600
Server	1	\$18 hr		40	52	2080	\$37,440
Reception	1	\$17 hr		40	52	2080	\$35,360
Bookkeeper	1	\$24 hr		40	52	2080	\$49,920
Maintenance	1	\$20 hr		40	52	2080	\$41,600
Resident Guide	1	\$24 hr		40	52	2080	\$49,920
Entertainment	1	\$15 hr		7	28	196	\$2,940
20% (Emp Benefits)							\$88,615
Full Time Total							\$443,075
Contractors							
Web Site Manager	1		LS				\$8,000
Contract Total							\$8,000
Employee Wages Total							\$1,841,315

Exhibit 21: Alternative 3b Neutral Employee Annual Wages
ALTERNATIVE 3b NEUTRAL EMPLOYEE ANNUAL WAGES

POSITION	#	Wage	Unit	Qty/Week	Weeks/Sea	Hr/Sea	Total Wage
Seasonal							
Housekeeper	6	\$16 hr		40	24	5760	\$92,160
Cook	4	\$20 hr		56	24	5376	\$107,520
Server	4	\$18 hr		28	24	2688	\$48,384
Reception	2	\$17 hr		40	52	4160	\$70,720
Guides	10	\$30 hr		84	24	20160	\$604,800
Entertainment	6	\$15 hr		14	24	2016	\$30,240
Boat/Bus Op	2	\$18 hr		60	24	2880	\$51,840
Museum/Shop	2	\$18 hr		56	24	2688	\$48,384
Prog Coordinator	2	\$30 hr		56	24	2688	\$80,640
Seasonal Total							\$1,134,688
Full Time							
Program Mngr	1	\$30 hr		40	52	2080	\$62,400
Housekeeper	1	\$16 hr		40	52	2080	\$33,280
Cook	1	\$20 hr		40	52	2080	\$41,600
Server	1	\$18 hr		40	52	2080	\$37,440
Reception	1	\$17 hr		40	52	2080	\$35,360
Bookkeeper	1	\$24 hr		40	52	2080	\$49,920
Maintenance	1	\$20 hr		40	52	2080	\$41,600
Resident Guide	1	\$24 hr		40	52	2080	\$49,920
Entertainment	1	\$15 hr		7	28	196	\$2,940
20% (Emp Benefits)							\$88,615
Full Time Total							\$443,075
Contractors							
Web Site Manager	1		LS				\$8,000
Contract Total							\$8,000
Employee Wages Total							\$1,585,763

Exhibit 22: 3c Pessimistic Employee Annual Wages
ALTERNATIVE 3c PESSIMISTIC EMPLOYEE ANNUAL WAGES

POSITION	#	Wage	Unit	Qty/Week	Weeks/Sea	Hr/Sea	Total Wage
Seasonal							
Housekeeper	3	\$16 hr		40	24	2880	\$46,080
Cook	3	\$20 hr		56	24	4032	\$80,640
Server	2	\$18 hr		28	24	1344	\$24,192
Reception	1	\$17 hr		40	52	2080	\$35,360
Guides	4	\$30 hr		84	24	8064	\$241,920
Entertainment	2	\$15 hr		14	24	672	\$10,080
Boat/Bus Op	1	\$18 hr		60	24	1440	\$25,920
Museum/Shop	1	\$18 hr		56	24	1344	\$24,192
Prog Coordinator	1	\$30 hr		56	24	1344	\$40,320
Seasonal Total							\$528,704
Full Time							
Program Mngr	1	\$30 hr		40	52	2080	\$62,400
Housekeeper	1	\$16 hr		40	52	2080	\$33,280
Cook	1	\$20 hr		40	52	2080	\$41,600
Server	1	\$18 hr		40	52	2080	\$37,440
Reception	1	\$17 hr		40	52	2080	\$35,360
Bookkeeper	1	\$24 hr		40	52	2080	\$49,920
Maintenance	1	\$20 hr		40	52	2080	\$41,600
Resident Guide	1	\$24 hr		40	52	2080	\$49,920
Entertainment	1	\$15 hr		7	28	196	\$2,940
20% (Emp Benefits)							\$88,615
Full Time Total							\$443,075
Contractors							
Web Site Manager	1		LS				\$8,000
Contract Total							\$8,000
Employee Wages Total							\$979,779

Calculations for present worth for each alternative were conducted. The present worth is highly dependent on the cost per person per day. This analysis utilized a \$1000/per person/per day value for the cabin guests and a \$1400/per person/per day cost value for lodge guests. Alternative 3a, based on an Optimistic Projected Visitor Potential resulted in the most desirable present worth value but is considered unrealistic due to the large visitor population required for success and initial costs.

Exhibit 23: Present Worth Evaluation of Alternatives

Present Worth Analysis

Alternative 2 - Cabins		Alternative 3b - Lodge - Neutral	
First Cost	\$ (4,400,000)	First Cost	\$ (22,482,000)
Wages	\$ (457,000)	Wages	\$ (1,586,000)
Fees	\$ (22,850)	Fees	\$ (79,300)
Revenue	\$ 1,680,000	Revenue	\$ 21,746,000
PW =	(\$3,206,268)	PW =	(\$2,702,067)

Alternative 3a - Lodge - Optimistic		Alternative 3c - Lodge - Pessimistic	
First Cost	\$ (30,681,000)	First Cost	\$ (17,500,000)
Wages	\$ (1,841,300)	Wages	\$ (980,000)
Fees	\$ (92,065)	Fees	\$ (49,000)
Revenue	\$ 33,540,000	Revenue	\$ 10,953,000
PW =	\$435,422	PW =	(\$7,694,830)

Chapter 6 Conclusions and Recommendations

The following chapter is intended to provide the conclusions, recommendations and future work in the determination of feasibility for the Lake Camp Geotourism Program alternatives.

6.1 Conclusions

The Alaskan tour industry is vital to the economic and community health for all hosting communities. There is an untapped potential for a geotourism program in the Lake Camp area of Alaska that could be economically beneficial in a regional and local perspective. The tour program in the Lake Camp area would provide local jobs, local revenue and advocate for geographical and cultural awareness that abounds in the region.

It is stressed that this research project is intended to provide an appraisal of if a geotourism program in the Lake Camp area is a viable business objective. The feasibility analysis conducted by this project indicates that the most feasible service concept alternative is Alternative 3a with an Optimistic Projected Visitor Potential which includes the construction and installation of critical infrastructure, resort lodge with 84 double occupancy rooms and a fully equipped operation of a geotourism program. Although Alternative 3a was not originally anticipated as a viable alternative, it is heavily dependent on visitor population projections previously identified.

It can be argued that Alternative 3b, which includes the construction and installation of critical infrastructure and 54 double occupancy rooms, utilizing the Neutral Visitor Population Projection is more economically pleasing than Alternative 2.

The final recommendation can be swayed by changing a few variables, such as the cost per person per day for guests utilizing either cabin or lodging facilities, within reason. Financial contributions for the initial first costs for either alternative, perhaps in the form of interest free grants and loans, will result in differing favor abilities.

With the given results of this analysis, it is recommended that the Geotourism Program explore the option of a 'phased approach' beginning with the construction and implementation, and operation of Alternative 2. Preparations should then commence for the construction and implementation of Alternative 3b with a Neutral Projected Visitor Projection once financial sustainability is achieved by operations of Alternative 2.

This project at least concludes that a geotourism program development in the Lake Camp area is a candidate for future exploration and continued development from a business perspective.

6.2 Contribution

The contribution of this research project provides a recommendation of feasibility of a service design concept alternative for the Lake Camp Geotourism Program. Furthermore this research contributes the advocacy of perpetual activities to encourage additional awareness, exploration and research into the initiation of a geotourism program which can be beneficial, financially and systemically, to the Lake Camp region of Alaska. The untapped potential of a regionally operated tour program in the Katmai National Park area of Alaska is too significant to not explore in greater detail. A geotourism program as proposed could set the standard for future geotourism programs not just in Alaska but also on a global scale. The geotourism program as proposed would be good business for the communities of King Salmon, Naknek and the involved tribal entities. The geotourism program would not only be financially beneficial by means of company revenue but also by employing local residents and by creating awareness of one of the most pristine geological and cultural beauties of Alaska. Local business that could benefit a larger population base should be encouraged rather than one or two, minimally employed, family ran businesses. A geotourism program in the Lake Camp area could be the catalyst for business growth within the communities as well and it could also provide a priceless sense of self sustainability for the communities.

6.3 Future Work

Areas of future work are encouraged for the continued development of a Project Master Plan going forward which will identify required future work such as engineering and economic studies, potential energy and funding sources, and required resources for the advancement of the project initiating, planning, execution, monitoring and control and closing processes.

Additional findings and costs can, and almost inevitably, be discovered when regulatory federal and state permitting and required plan activities are conducted. Other costs not identified, but inevitable, include business licensure and insurance, required employer health and benefit contributions, and other resources such as disposables (toilets, linens, furnishings), and energy costs.

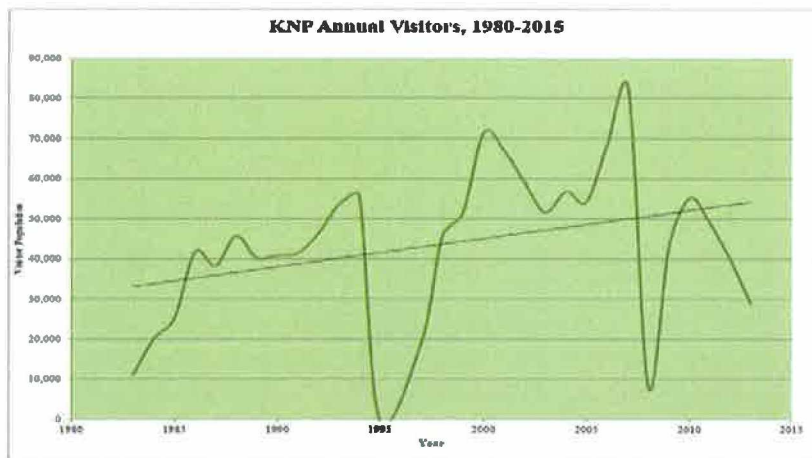
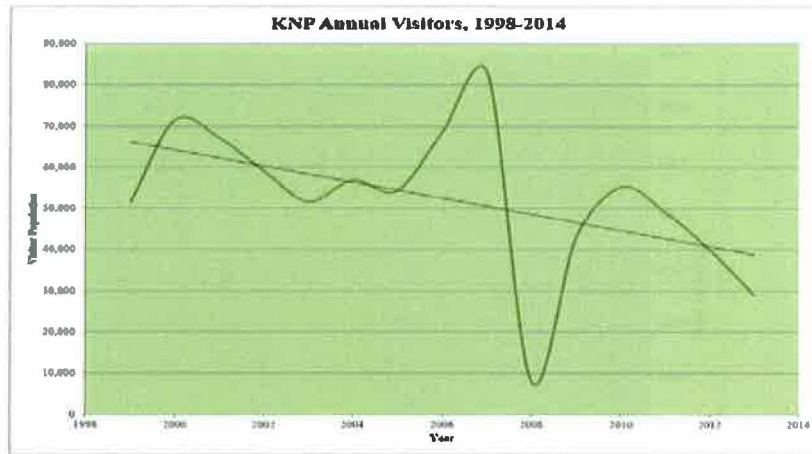
It is important that a detailed business Master Plan be created with heavy involvement with potential investors. This business Master Plan should, at minimum, identify potential customer, marketing, existing energy sources and alternatives, existing transportation options and alternatives. The detailed plan can be leveraged for potential investors and for applying for concessions from the National Park Service. This plan should also serve a recommendation for land transfer between individual allotment owners to the tribal government, which is most critical to the proposed geotourism program fruition.

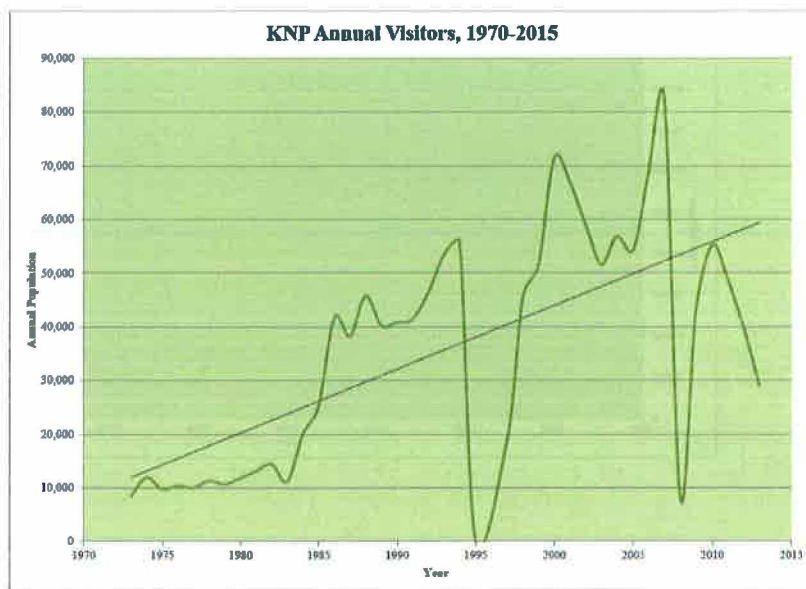
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Appendix A:
Population Data and Projections





Appendix B:
Existing Tour Packages

Air Adventures - Anchorage, Alaska						
Duration, Days	Transportation	Accommodations	Guide	Fishing	Viewing	Cost, PP
2	X	X	X	X	X	\$ 1,995
3	X	X	X	X		\$ 2,885

Source: www.airventuresalaska.com/airventures/trip_packages.html

Alaska West Air						
Duration, Days	Transportation	Accommodations	Guide	Fishing	Viewing	Cost, PP
0	X		X		X	\$ 640

Source: www.alaskawestair.com/bear_viewing.html

Katmailand - Brooks Lodge Katmai, Alaska						
Duration, Days	Transportation	Accommodations	Guide	Fishing	Viewing	Cost, PP
0	X		X		X	\$ 749
1	X	X	X		X	\$ 1,156
2	X	X	X		X	\$ 1,419
3	X	X	X		X	\$ 1,880
3	X		X	X		\$ 1,810
3	X	X	X	X		\$ 2,170

Source: www.katmailand.com

Katmailand - Grosvenor Lodge Katmai, Alaska						
Duration, Days	Transportation	Accommodations	Guide	Fishing	Viewing	Cost, PP
3	X	X	X	X		\$ 2,990
4	X	X	X	X		\$ 3,885
7	X	X	X	X		\$ 4,880

Source: www.katmailand.com

Katmailand - Kulik Lodge Katmai, Alaska						
Duration, Days	Transportation	Accommodations	Guide	Fishing	Viewing	Cost, PP
3	X	X	X	X	X	\$ 3,100
4	X	X	X	X	X	\$ 3,965

Source: www.katmailand.com

Visitors by Available Accommodations

Duration	Air Adventures	Brooks Lodge*	Grosvenor Lodge*	Kulik Lodge*	Total
Weekly	6	128	18	96	248
Annual	72	768	288	1536	2664

* Operated By KatmaiLand, Inc.

2912

Appendix C:

Estimated Required Visitor Capacities Based on Projections

Expected Annual Visitors		
Optimistic:	82634	All-Time-High, 2007
Neutral:	53806	Mean
Pessimistic:	24977	Historical Average

Source: National Park Service (1904 to Present)

	Visitors	3 Day	4 Day	7 Day	Winter	Others
Optimistic:	16527	25%	20%	15%	20%	20%
Neutral:	10761	25%	20%	15%	20%	20%
Pessimistic:	4995	25%	20%	15%	20%	20%

Assume: 20% of Visitors to Katmai will find accommodations with Lake Camp

	Visitors	3 Day	4 Day	7 Day	Winter	Others	*Peak Season
Optimistic:	16527	4132	3305	2479	3305	3305	9916
Neutral:	10761	2690	2152	1614	2152	2152	6457
Pessimistic:	4995	1249	999	749	999	999	2997

*Peak Season May - September, 24 weeks

Required Lodge Capacity

	Visitors per Week	Duration of Stay			Max Guests Week	# Rooms Needed
		3 Day	4 Day	7 Day		
Optimistic:	413	103	83	62	165	83
Neutral:	269	67	54	40	108	54
Pessimistic:	125	31	25	19	50	25

Assume: Peak Operations May - September 24 Weeks

Occupancy				
Duration	2	Guests/Week	Wks/Season	Total Guests
3 Day	4	8	24	192
4 Day	4	8	24	192
7 Day	1	2	24	48

Assume Peak Operations May-September: 432

Appendix D:
Construction Cost Estimates

Alternative 2 Cost Estimate

First Cost	QTY	Unit	Unit Price	Total
Boat Launch	1	ea	\$50,000	\$50,000
Dock	1	ea	\$150,000	\$150,000
Road	1000	LF	\$200	\$200,000
*Boardwalk	500	LF	\$108	\$54,000
**15% (Design/Admin)	15 %		\$68,100 [^]	\$68,100
Shuttle Bus	1	ea	\$125,000	\$125,000
Boat(s)	1	ea	\$225,000	\$225,000
				\$872,100

*VISITOR CENTER	QTY	UNIT	Unit Price	Total
Vestibule	100	SF	\$700	\$70,000
Display Area	200	SF	\$700	\$140,000
Ticket Area	100	SF	\$700	\$70,000
Small Kitchen	200	SF	\$700	\$140,000
Eating Area	600	SF	\$700	\$420,000
Shop	200	SF	\$700	\$140,000
Storage	200	SF	\$700	\$140,000
**15% (Design/Admin)	15 %		\$168,000	\$168,000
				\$1,288,000

*CABINS	QTY	UNIT	Unit Price	Total
Single Cabin	560	SF	\$700	\$392,000
Total for 5 Cabins	5	ea	\$392,000	\$1,960,000
**15% (Design/Admin)	15 %		\$294,000	\$294,000

* Indicates Estimate Provided by Others \$2,254,000

** Indicates Item is Debateable

[^] Indicates Estimate Modified

Alternative 2 Cost Estimate Total: \$4,414,100

Alternative 3 Optimistic Cost Estimate

First Cost	QTY	Unit	Unit Price	Total
Boat Launch	1	ea	\$50,000	\$50,000
Dock	1	ea	\$150,000	\$150,000
Road	1000	LF	\$200	\$200,000
*Boardwalk	500	LF	\$108	\$54,000
15% (Design/Admin)	15	%	\$68,100	\$68,100
Shuttle Bus	3	ea	\$125,000	\$375,000
Boat(s)	3	ea	\$225,000	\$675,000
				\$1,572,100

*LODGE	QTY	Unit	Unit Price	Total
Reception - Welcoming	400	SF	\$700	\$280,000
Multipurpose Room	1000	SF	\$700	\$700,000
Spa - Relaxation	1000	SF	\$700	\$700,000
Exercise - Pool/Banya	1500	SF	\$700	\$1,050,000
Rooms, 84 Each	240	SF	\$700	\$14,112,000
Restaurant/Bar	1500	SF	\$700	\$1,050,000
Workshop	1000	SF	\$700	\$700,000
Retail	1000	SF	\$700	\$700,000
Storage/Secure	1000	SF	\$700	\$700,000
Loading Area	100	SF	\$700	\$70,000
Staff Quarters	3000	SF	\$700	\$2,100,000
Administration	500	SF	\$700	\$350,000
Kitchen/Freezer	4000	SF	\$700	\$2,800,000
15% (Design/Admin)	15	%	\$3,796,800	\$3,796,800
*This estimate has been modified in it's entirety				\$29,108,800
Alternative 3 Cost Estimate Total:				\$30,680,900

Alternative 3 Neutral Cost Estimate

First Cost	QTY	Unit	Unit Price	Total
Boat Launch	1	ea	\$50,000	\$50,000
Dock	1	ea	\$150,000	\$150,000
Road	1000	LF	\$200	\$200,000
*Boardwalk	500	LF	\$108	\$54,000
15% (Design/Admin)	15	%	\$68,100	\$68,100
Shuttle Bus	2	ea	\$125,000	\$250,000
Boat(s)	2	ea	\$225,000	\$450,000
				\$1,222,100

*LODGE	QTY	Unit	Unit Price	Total
Reception - Welcoming	600	SF	\$700	\$420,000
Multipurpose Room	750	SF	\$700	\$525,000
Spa - Relaxation	750	SF	\$700	\$525,000
Exercise - Pool/Banya	1250	SF	\$700	\$875,000
Rooms, 54 Each	240	SF	\$700	\$9,072,000
Restaurant/Bar	1250	SF	\$700	\$875,000
Workshop	750	SF	\$700	\$525,000
Retail	1000	SF	\$700	\$700,000
Storage/Secure	1000	SF	\$700	\$700,000
Loading Area	100	SF	\$700	\$70,000
Staff Quarters	2500	SF	\$700	\$1,750,000
Administration	500	SF	\$700	\$350,000
Kitchen/Freezer	3000	SF	\$700	\$2,100,000
15% (Design/Admin)	15	%	\$2,773,050	\$2,773,050
*This estimate has been modified in it's entirety				\$21,260,050
Alternative 3 Cost Estimate Total:				\$22,482,150

Alternative 3 - Pessimistic Cost Estimate

First Cost	QTY	Unit	Unit Price	Total
Boat Launch	1	ea	\$50,000	\$50,000
Dock	1	ea	\$150,000	\$150,000
Road	1000	LF	\$200	\$200,000
Boardwalk	500	LF	\$108	\$54,000
15% (Design/Admin)	15	%	\$68,100	\$68,100
Shuttle Bus	1	ea	\$125,000	\$125,000
Boat(s)	1	ea	\$225,000	\$225,000
				\$872,100

*LODGE	QTY	Unit	Unit Price	Total
Reception - Welcoming	200	SF	\$700	\$140,000
Multipurpose Room	5000	SF	\$700	\$3,500,000
Spa - Relaxation	500	SF	\$700	\$350,000
Exercise - Pool/Banya	1500	SF	\$700	\$1,050,000
Rooms, 24 Each	240	SF	\$700	\$4,032,000
Restaurant/Bar	1000	SF	\$700	\$700,000
Workshop	1000	SF	\$700	\$700,000
Retail	750	SF	\$700	\$525,000
Storage/Secure	1000	SF	\$700	\$700,000
Loading Area	100	SF	\$700	\$70,000
Staff Quarters	2000	SF	\$700	\$1,400,000
Administration	500	SF	\$700	\$350,000
Kitchen/Freezer	1500	SF	\$700	\$1,050,000
15% (Design/Admin)	15	%	\$2,185,050	\$2,185,050
				\$16,752,050

Alternative 3 Cost Estimate Total: \$17,624,150

Appendix E:

Estimated Annual Employee Costs

ALTERNATIVE 2 ESTIMATED EMPLOYEE ANNUAL WAGES

POSITION	#	Wage	Unit	Qty/Week	Weeks/Sea	Hr/Sea	Total Wage
Seasonal							
Housekeeper	1	\$16 hr		40	24	960	\$15,360
Cook	1	\$20 hr		40	24	960	\$19,200
Server	0	\$18 hr		28	24	0	\$0
Reception	0	\$17 hr		40	52	0	\$0
Guides	4	\$30 hr		84	24	8064	\$241,920
Entertainment	2	\$15 hr		14	24	672	\$10,080
Boat/Bus Op	1	\$18 hr		60	24	1440	\$25,920
Museum/Shop	0	\$18 hr		56	24	0	\$0
Prog Coordinator	1	\$30 hr		56	24	1344	\$40,320
Seasonal Total							\$352,800
Full Time							
Program Mngr	1	\$30 hr		20	52	1040	\$31,200
Housekeeper	0	\$16 hr		40	52	0	\$0
Cook	0	\$20 hr		40	52	0	\$0
Server	0	\$18 hr		40	52	0	\$0
Reception	0	\$17 hr		40	52	0	\$0
Bookkeeper	1	\$24 hr		20	52	1040	\$24,960
Maintenance	1	\$20 hr		20	52	1040	\$20,800
Resident Guide	0	\$24 hr		40	52	0	\$0
Entertainment	0	\$15 hr		7	28	0	\$0
20% (Emp Benefits)							\$19,240
Full Time Total							\$96,200
Contractors							
Web Site Manager	1		LS				\$8,000
Contract Total							\$8,000
Employee Wages Total							\$457,000

ALTERNATIVE 3a OPTIMISTIC EMPLOYEE ANNUAL WAGES

POSITION	#	Wage	Unit	Qty/Week	Weeks/Sea	Hr/Sea	Total Wage
Seasonal							
Housekeeper	8	\$16 hr		40	24	7680	\$122,880
Cook	6	\$20 hr		56	24	8064	\$161,280
Server	6	\$18 hr		28	24	4032	\$72,576
Reception	2	\$17 hr		40	52	4160	\$70,720
Guides	12	\$30 hr		84	24	24192	\$725,760
Entertainment	6	\$15 hr		14	24	2016	\$30,240
Boat/Bus Op	3	\$18 hr		60	24	4320	\$77,760
Museum/Shop	2	\$18 hr		56	24	2688	\$48,384
Prog Coordinator	2	\$30 hr		56	24	2688	\$80,640
Seasonal Total							\$1,390,240
Full Time							
Program Mngr	1	\$30 hr		40	52	2080	\$62,400
Housekeeper	1	\$16 hr		40	52	2080	\$33,280
Cook	1	\$20 hr		40	52	2080	\$41,600
Server	1	\$18 hr		40	52	2080	\$37,440
Reception	1	\$17 hr		40	52	2080	\$35,360
Bookkeeper	1	\$24 hr		40	52	2080	\$49,920
Maintenance	1	\$20 hr		40	52	2080	\$41,600
Resident Guide	1	\$24 hr		40	52	2080	\$49,920
Entertainment	1	\$15 hr		7	28	196	\$2,940
20% (Emp Benefits)							\$88,615
Full Time Total							\$443,075
Contractors							
Web Site Manager	1		LS				\$8,000
Contract Total							\$8,000
Employee Wages Total							\$1,841,315

ALTERNATIVE 3b NEUTRAL EMPLOYEE ANNUAL WAGES

POSITION	#	Wage	Unit	Qty/Week	Weeks/Sea	Hr/Sea	Total Wage
Seasonal							
Housekeeper	6	\$16 hr		40	24	5760	\$92,160
Cook	4	\$20 hr		56	24	5376	\$107,520
Server	4	\$18 hr		28	24	2688	\$48,384
Reception	2	\$17 hr		40	52	4160	\$70,720
Guides	10	\$30 hr		84	24	20160	\$604,800
Entertainment	6	\$15 hr		14	24	2016	\$30,240
Boat/Bus Op	2	\$18 hr		60	24	2880	\$51,840
Museum/Shop	2	\$18 hr		56	24	2688	\$48,384
Prog Coordinator	2	\$30 hr		56	24	2688	\$80,640
						Seasonal Total	\$1,134,688
Full Time							
Program Mngr	1	\$30 hr		40	52	2080	\$62,400
Housekeeper	1	\$16 hr		40	52	2080	\$33,280
Cook	1	\$20 hr		40	52	2080	\$41,600
Server	1	\$18 hr		40	52	2080	\$37,440
Reception	1	\$17 hr		40	52	2080	\$35,360
Bookkeeper	1	\$24 hr		40	52	2080	\$49,920
Maintenance	1	\$20 hr		40	52	2080	\$41,600
Resident Guide	1	\$24 hr		40	52	2080	\$49,920
Entertainment	1	\$15 hr		7	28	196	\$2,940
20% (Emp Benefits)							\$88,615
						Full Time Total	\$443,075
Contractors							
Web Site Manager	1		LS				\$8,000
						Contract Total	\$8,000
						Employee Wages Total	\$1,585,763

ALTERNATIVE 3c PESSIMISTIC EMPLOYEE ANNUAL WAGES

POSITION	#	Wage	Unit	Qty/Week	Weeks/Sea	Hr/Sea	Total Wage
Seasonal							
Housekeeper	3	\$16 hr		40	24	2880	\$46,080
Cook	3	\$20 hr		56	24	4032	\$80,640
Server	2	\$18 hr		28	24	1344	\$24,192
Reception	1	\$17 hr		40	52	2080	\$35,360
Guides	4	\$30 hr		84	24	8064	\$241,920
Entertainment	2	\$15 hr		14	24	672	\$10,080
Boat/Bus Op	1	\$18 hr		60	24	1440	\$25,920
Museum/Shop	1	\$18 hr		56	24	1344	\$24,192
Prog Coordinator	1	\$30 hr		56	24	1344	\$40,320
						Seasonal Total	\$528,704
Full Time							
Program Mngr	1	\$30 hr		40	52	2080	\$62,400
Housekeeper	1	\$16 hr		40	52	2080	\$33,280
Cook	1	\$20 hr		40	52	2080	\$41,600
Server	1	\$18 hr		40	52	2080	\$37,440
Reception	1	\$17 hr		40	52	2080	\$35,360
Bookkeeper	1	\$24 hr		40	52	2080	\$49,920
Maintenance	1	\$20 hr		40	52	2080	\$41,600
Resident Guide	1	\$24 hr		40	52	2080	\$49,920
Entertainment	1	\$15 hr		7	28	196	\$2,940
20% (Emp Benefits)							\$88,615
						Full Time Total	\$443,075
Contractors							
Web Site Manager	1		LS				\$8,000
						Contract Total	\$8,000
						Employee Wages Total	\$979,779

Appendix F:

Potential Revenue by Alternative

Duration	Guests per		Wkly		Weeks per	
	Wk	Revenue	Season	Revenue	Season	Revenue
3 Day	8	\$ 24,000	24	\$ 576,000		
4 Day	8	\$ 32,000	24	\$ 768,000		
7 Day	2	\$ 14,000	24	\$ 336,000		

Average Cost Per Person, Per Day: \$ 1,000

Total Potential Revenue: \$ 1,680,000

Potential Revenue Given Optimistic Value of Visitors

Duration	Guests per		Wkly		Weeks per	
	Wk	Revenue	Season	Revenue	Season	Revenue
3 Day	103	\$ 432,600	24	\$ 10,382,400		
4 Day	83	\$ 464,800	24	\$ 11,155,200		
7 Day	62	\$ 607,600	24	\$ 14,582,400		

Average Cost Per Person, Per Day: \$ 1,400

Total Potential Revenue: \$ 36,120,000

Potential Revenue Given Neutral Value of Visitors

Duration	Guests per		Wkly		Weeks per	
	Wk	Revenue	Season	Revenue	Season	Revenue
3 Day	67	\$ 281,400	24	\$ 6,753,600		
4 Day	54	\$ 302,400	24	\$ 7,257,600		
7 Day	40	\$ 392,000	24	\$ 9,408,000		

Average Cost Per Person, Per Day: \$ 1,400

Total Potential Revenue: \$ 23,419,200

Potential Revenue Given Pessimistic Value of Visitors

Duration	Guests per		Wkly		Weeks per	
	Wk	Revenue	Season	Revenue	Season	Revenue
3 Day	31	\$ 130,200	24	\$ 3,124,800		
4 Day	25	\$ 140,000	24	\$ 3,360,000		
7 Day	19	\$ 186,200	24	\$ 4,468,800		

Average Cost Per Person, Per Day: \$ 1,400

Total Potential Revenue: \$ 10,953,600

Appendix G:
Present Worth Analysis

Present Worth Analysis

Alternative 2 - Cabins		Alternative 3b - Lodge - Neutral	
First Cost	\$ (4,400,000)	First Cost	\$ (22,482,000)
Wages	\$ (457,000)	Wages	\$ (1,586,000)
Fees	\$ (22,850)	Fees	\$ (79,300)
Revenue	\$ 1,680,000	Revenue	\$ 21,746,000
PW =	(\$3,206,268)	PW =	(\$2,702,067)

Alternative 3a - Lodge - Optimistic		Alternative 3c - Lodge - Pessimistic	
First Cost	\$ (30,681,000)	First Cost	\$ (17,500,000)
Wages	\$ (1,841,300)	Wages	\$ (980,000)
Fees	\$ (92,065)	Fees	\$ (49,000)
Revenue	\$ 33,540,000	Revenue	\$ 10,953,000
PW =	\$435,422	PW =	(\$7,694,830)

Appendix H:

Original Architect's Cost Estimates

Lake Camp Concept**Phase 1**

Infrastructure

- Boat Launch
- Dock
- Shuttle Bus
- Boat
- Boardwalk – 500 LF @ \$108/LF = \$54,000

Visitor Center

- Vestibule – 100 SF
- Display Area with Desk – 200 SF
- Ticket Area - 100 SF
- Small Kitchen – 200 SF
- Eating Area – 600 SF
- Shop – 200 SF
- Storage – 200 SF

Total 1,600 with 15% = 1,840 Construction Cost at \$700/SF = \$1,288,000

Cabin

- Single Cabin – 560 SF x 700 SF = \$392,000

5 Cabins = \$ 1,960,000

Vertical Construction = \$3,392,000 Construction Cost

Project Cost = \$4,292,600

Phase 2

The Meeting House A place for ceremony

- Reception – Welcoming 200 SF
- Community Room – Qasgiq - Singing / Dancing 5000 SF
- Spa - A place for healing / Self-reflection 500 SF
- Exercise - Pool
- Rooms – Private and restful (24) 240 SF = 5760 SF
- Restaurant – Nourishment 1000 SF
- Workshop - Skin sewing / Carving/ Beading 500 SF
- Retail 500 SF

Back of the House

- Storage/Secure 1,000 SF
- Loading Area 100 SF
- Employee Housing 2,000 SF
- Administration 500 SF
- Kitchen/Freezer 2,000 SF

Vertical Construction 21,919SF with 15% = 10,959,500 Construction Cost at \$700/SF

Project Cost 13,151,400

Appendix I:

Architect's Rendering of Cabins



Appendix J:
Presentation Slides

**FEASIBILITY ANALYSIS OF THE SERVICE
DESIGN FOR THE GEOTOURISM PROGRAM IN
THE LAKE CAMP AREA OF ALASKA**

**Engineering & Science Management
ESM 684: Final Project**

Peggy Paulus, B.S.

April 20th, 2015

Agenda

- **Introduction**
- **Methodology**
- **Lake Camp Geotourism Program**
- **Model, Analysis and Results**
- **Conclusions & Recommendations**

Problem Statement

Record # of Visitors Came to Alaska in 2013

- 1.9 Million Visitors (Alaska Department of Commerce, Community and Economic Development) (ADCCED), 2014)
- 1.5% visited Katmai National Park (National Park Service [NPS], 2014)

Tour programs in the KNP area are limited

- Typically operate out of Anchorage (NPS, 2014)

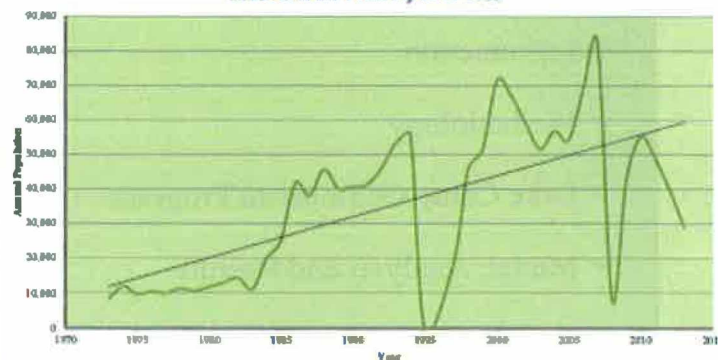
1 concessioner in KNP provides accommodations (NPS, 2014)

Peggy Paulsen, B.S.

3

Problem Statement

KNP Annual Visitors, 1970-2015



(NPS, 2014, Visitor Data)

Peggy Paulsen, B.S.

4

Research Question

Is there a service design concept for the development of the Lake Camp Geotourism Program that can be sustainable and also beneficial to the Lake Camp area?

Scope of Project

- Which service design concept alternative for a geotourism program in Lake Camp is the most feasible?
- Calculate and compare the potential cost and benefit of each alternative and determine present worth.
- Provide recommendation for feasible alternative.

Project Significance

- Provide a recommendation of feasible service concept alternative.
- Advocate decision making analysis as a standard process for a project.
- Provide a useful analysis to support advancement of a geotourism program in Lake Camp, Alaska.

Peggy Paulsen, B.S.

7

Methodology Overview

- Conducted a literature review.
- Collected Alaska tourism and visitor data.
- Collected available cost estimates and/or made assumptions of construction costs.
- Calculated projected KNP visitor populations.
- Optimized Geotourism Program Facilities.
- Calculated Present Worth.

Peggy Paulsen, B.S.

8

Assumptions

- Land and financial resources are readily available and not part of project scope.
- Cost estimates prepared by BDS Architects is correct and serves as financial foundational basis.
- Actual life cycles of proposed alternatives cannot be determined.

Geotourism

- Geotourism has been relatively difficult to define and is highly debatable.
 - Newsome, D. & Ross, K. (2010) defined geotourism as the act of experiencing natural landscapes and geological phenomena.
 - National Geographic, NG (2014) defined geotourism as “...tourism that sustains or enhances the geographical character of a place – its environment, culture, aesthetics, heritage, and the well-being of it’s residents.”

Service Design

- **Service Design is also relatively new in the service sector.**
- **Service Design is the act of defining a service concept and planning and organizing of people, resources, infrastructure and materials required to deliver that service concept.**

Service Concept

- **Service Concept is the preconceived notion a customer has in anticipation to receiving a service, or even product.**
- **Service Concept must be defined, developed and executed with customer expectations in mind.**

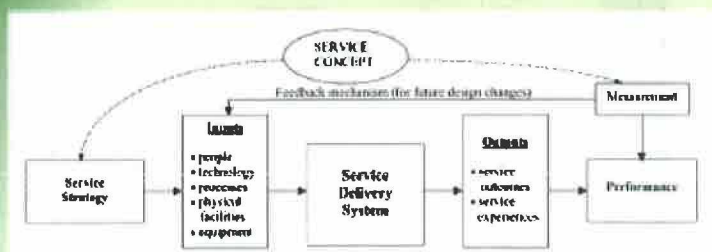
Service Concept

- The Service Concept is the catalyst for decision making in **strategic and operational levels**.
- Customers have moved from the *service economy* and into the *experience economy* (Journal of Operations Management, 2010).
- Failure to meet a customers Service Concept will guarantee customer dissatisfaction.

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13

Service Concept



Source: S.M. Goldstein et al./Journal of Operations Management 20 (2002) 1221-134

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14

Service Recovery

- The Service Concept can be used for Monitoring and Controlling if measurements and metrics are predefined.
- Monitoring and Controlling activities are vital processes in the Project Life Cycle, PMBOK(2008).

Service Recovery

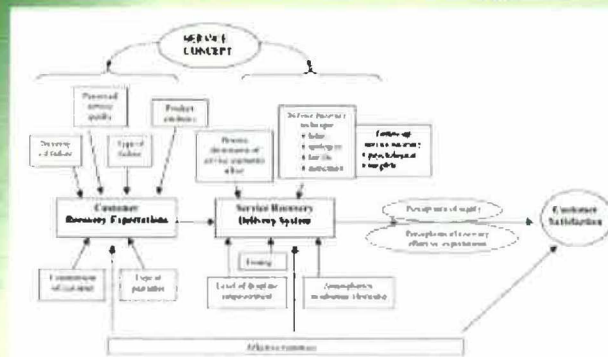


Fig. 3 Proposed service recovery model

Source: S.M. Goldstein et al./Journal of Operations Management 20 (2002) 121-134

Lake Camp Background Information

- **King Salmon, Alaska**
 - 335 population (28% Native American)
 - Yup'ik, Alutiiq, and Athabascan
 - Students travel to Naknek for school
 - Fishing industry hub for Southwest Alaska
- **Naknek, Alaska**
 - 523 population (30% Native American)
 - Yup'ik, Alutiiq, and Athabascan
 - 12 fishing canneries

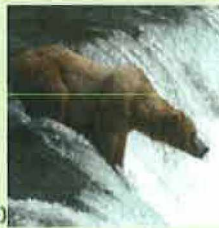
Source: ADCCED, 2014

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17

Lake Camp Background Information

- **Corridor to the Katmai National Park**
- **KNP is home to:**
 - Bear, moose, caribou, fox, migratory birds, sea otter, and numerous fish
 - Valley of 10,000 Smokes
 - Glaciers
 - Tundra



Source: NPS (2014)

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18

Lake Camp Geotourism Program

- **Volunteer group including**
 - **Architects and engineers**
 - **UA Faculty**
 - **Local Native Corporation Members**
 - **Local Tribal Organization Members**
 - **Residents of King Salmon and Naknek**
- **Goal: Plan, Initiate and Operate a sustainable geotourism program in Lake Camp**

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39

Current Geotourism Program

- **Alaskan Visitor Statistics for 2012-2013:**
 - **Record 1.9 Million Visitors, ADCCED, (2014)**
 - **30,000 (1.5%) visited Katmai National Park, NPS (2014)**

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20

Current Geotourism Program

- The National Park Service regulates commercial services within its parks.
- 9 approved concessioners in KNP:
 - Guided fishing and bear viewing
 - Retail
 - Equipment rentals and outfitters
 - Food and beverage
 - Lodging (Katmailand, since 1950)

Source: National Park Service, NPS 2014

History of Katmai National Park



Data from National Park Service, NPS 2014

Current Geotourism Program

- Day trips available from Anchorage, Homer and Kodiak and other nearby communities.
- 1-Day, 3-Day, 4-Day and 7-Day Packages available.
- Average cost, \$1000/pp/day.

Current Geotourism Program

Kodiak - Kodiak Island Area							
Package	Days	Transportation	Accommodations	Meals	Other	Trip Fee	Cost/PP
1	1	0	0	0	0	0	1,100
2	3	0	0	0	0	0	1,100
Note: Includes round-trip airfare from Anchorage, parking fees.							

Homer - Homer Area							
Package	Days	Transportation	Accommodations	Meals	Other	Trip Fee	Cost/PP
1	1	0	0	0	0	0	1,100
2	3	0	0	0	0	0	1,100
Note: Includes round-trip airfare from Anchorage, parking fees.							

Ketchikan - Ketchikan Harbor Area							
Package	Days	Transportation	Accommodations	Meals	Other	Trip Fee	Cost/PP
1	1	0	0	0	0	0	1,100
2	3	0	0	0	0	0	1,100
3	4	0	0	0	0	0	1,100
4	7	0	0	0	0	0	1,100
Note: Includes round-trip airfare from Anchorage, parking fees.							

Ketchikan - Ketchikan Harbor Area							
Package	Days	Transportation	Accommodations	Meals	Other	Trip Fee	Cost/PP
1	1	0	0	0	0	0	1,100
2	3	0	0	0	0	0	1,100
Note: Includes round-trip airfare from Anchorage, parking fees.							

Current Geotourism Program

- According to the Article: In Katmai National Park, Alaska, Up Close with Bear Pursuing Salmon, *Los Angeles Times* (2014)
 - Tour reservations were sold out in 3 hours.

Proposed Lake Camp Geotourism Program

- Several Service Design Concept Alternatives
 - Alternative 1
 - Do Nothing
 - Alternative 2, Construct and/or Install:
 - Critical infrastructure
 - 5 double occupancy cabins
 - Alternative 3, Construct and/or Install:
 - Critical infrastructure
 - 24 double occupancy room Lodge

Proposed Lake Camp Geotourism Program



Source: Bezek Durst Seiser (BDS) Architects

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27

Proposed Lake Camp Geotourism Program

- **Alternative 3 – Lodge**

Amenities include:

- 24 double occupancy rooms
- Spa or maaki (steam bath)
- Multipurpose room for crafts, etc.
- Exercise facilities
- Workshop
- Restaurant
- Retail

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28

Proposed Camp Lake Geotourism Program

- **Cultural Component**
 - Local tour guides and staff
 - Native Craft making/workshops
 - Native dancing, singing and storytelling
 - Native tool making workshops
 - Native food preparation

Proposed Lake Camp Geotourism Program

- **Geographical Component**
 - Wildlife Viewing
 - Sports fishing
 - Valley of 10,000 Smokes
 - Flora and fauna

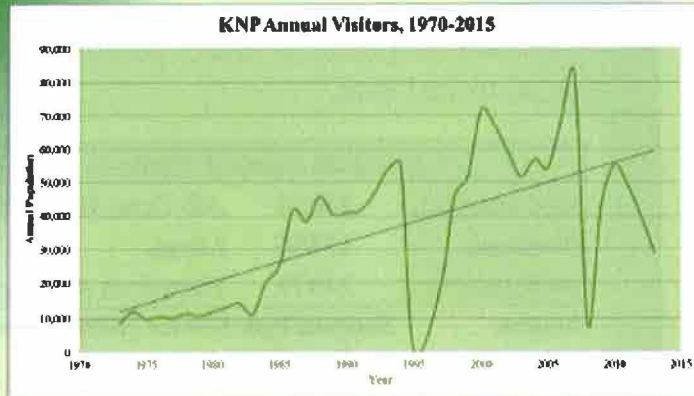
Proposed Lake Camp Geotourism Program

- Possible Winter Activities
 - Snowshoeing
 - Skiing
 - Aurora Viewing
 - Wedding Receptions
 - Corporate Receptions
 - Youth Programs

Model, Analysis and Results

- Projected population is critical to geotourism project success.
 - Only 1.5% of visitors went to KNP (NPS, 2014).
 - Estimated that Katmailand can accommodate (overnight) 3,000 visitors annually.

Model, Analysis and Results



Source: National Park Service, 2014

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33

Model, Analysis and Results

- Estimate current facility capacity for overnights.

	Air Adventures	Brooks Lodge*	Grosvenor Lodge*	Kullik Lodge*	Total
Weekly	6	128	18	96	248
Annual	72	768	288	1536	2664

* Operated By KatmaiLand, Inc.

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34

Model, Analysis and Results

- Estimate the potential visitor population based on historical data.

Expected Annual Visitors		
Optimistic:	82634	All-Time-High, 2007
Neutral:	53806	Mean
Pessimistic:	24977	Historical Average
Source: National Park Service (1904 to Present)		

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15

Model, Analysis and Results

- Assume that 20% of the visitors to KNP will utilize the Lake Camp Geotourism Program.

	Visitors	3 Day	4 Day	7 Day	Winter	Others
Optimistic:	16527	25%	20%	15%	20%	20%
Neutral:	10761	25%	20%	15%	20%	20%
Pessimistic:	4995	25%	20%	15%	20%	20%

Assume: 20% of Visitors to Katmai will find accommodations with Lake Camp

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16

Model, Analysis and Results

- Duration of packages was also assumed.

	Visitors	3 Day	4 Day	7 Day	Winter	Others	*Peak Season
Optimistic:	16527	4132	3305	2479	3305	3305	9916
Neutral:	10761	2690	2152	1614	2152	2152	6457
Pessimistic:	4995	1249	999	749	999	999	2997

*Peak Season: May - September, 24 weeks

Model, Analysis and Results

- Determine capacity of Alternative 2 Cabins.

Duration	Occupancy		Wks/Season	Total Guests
	2	Guests/Week		
3 Day	4	8	24	192
4 Day	4	8	24	192
7 Day	1	2	24	48

As same Peak Operations May-September:

432

Model, Analysis and Results

- Determine potential revenue for Alternative 2 based on optimization of facilities.
- Assumed average cost per person per day is \$1000.

Alternative	Revenue
5 Cabins	\$ 1,680,000

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39

Model, Analysis and Results

- Determine Present Worth for Alternative 2.

Alternative 2 - Cabins		
First Cost	\$	(4,400,000)
Wages	\$	(457,000)
Fees	\$	(22,850)
Revenue	\$	1,680,000
PW =		(\$3,206,268)

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40

Model, Analysis and Results

- Determine lodge capacity requirements based on Optimistic, Neutral and Pessimistic Visitor population projections.

	Required Lodge Capacity					
	Visitors per Week	Duration of Stay			Max Guests Week	# Rooms Needed
		3 Day	4 Day	7 Day		
Optimistic:	413	103	83	62	165	83
Neutral:	269	67	54	40	107	54
Pessimistic:	125	31	25	19	50	25

Assume Peak Operations May-September: 24 Weeks

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41

Model, Analysis and Results

- Estimated construction costs for each required lodge capacity by modifying architects estimate when required.

Alternative 3 Construction Costs	
Alternative	Total Costs
3a - Optimistic	\$ 30,681,100
3b - Neutral	\$ 22,482,000
3c - Pessimistic	\$ 17,500,000

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42

Model, Analysis and Results

- Determined potential revenue for Alternative 3 option.
- Assumed average cost per person per day is \$1400.

Alternative 3 Potential Revenue

Alternative	Revenue
3a - Optimistic	\$ 36,120,000
3b - Neutral	\$ 23,419,200
3c - Pessimistic	\$ 10,953,600

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43

Model, Analysis and Results

- Determine Present Worth for each Alternative 3 option.

Alternative 3 Present Worth

Alternative	Present Worth
3a - Optimistic	\$435,422
3b - Neutral	(\$2,702,067)
3c - Pessimistic	(\$7,694,830)

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44

Model, Analysis and Results

Present Worth Summary

Alternative	Present Worth
2 - Cabins	(\$3,206,268)
3a - Optimistic	\$435,422
3b - Neutral	(\$2,702,067)
3c - Pessimistic	(\$7,694,830)

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45

Results

- Most feasible alternative is Alternative 3a.
- Not considered realistic, because:
 - heavily dependent on projected visitor populations,
 - **Expensive** first costs.

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46

Results

- Final recommendation can be swayed by changing a few variables:
 - Cost per person per day,
 - Interest rates,
 - Financial contributions for first costs.

Recommendation

- Explore the option of a 'Phased Approach'
 - Phase 1 – construct and implement Alternative 2; then if financial sustainable,
 - Phase 2 – construction and implement Alternative 3b.

Future Work

- **Develop a Project Master Plan**
 - Engineering and economic studies
 - Potential energy and funding sources
- **Define Project Process Requirements**
 - Initiation
 - Planning
 - Execution
 - Monitoring and Controlling
 - Closing

Questions?