Master's thesis

Sustainable Cruise Ship Tourism:
A Carrying Capacity Study for Ísafjörður, Iceland

Megan Anne O'Brien

Advisor: Anna Karlsdóttir

University of Akureyri
Faculty of Business and Science
University Centre of the Westfjords
Master of Resource Management: Coastal and Marine Management
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Supervisory Committee

Advisor:
Anna Karlsdóttir, PhD.

Reader:
Edward Huijbens, PhD.

Program Director:
Dagný Arnarsdóttir, MSc.

Megan Anne O'Brien
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Declaration

I hereby confirm that I am the sole author of this thesis and it is a product of my own academic research.

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Student‘s name

Abstract

Ísafjörður is the principal town of the Westfjords peninsula, Iceland, and it is located on an isthmus in Skutulsfjörður. High-tech industries and research, based on the knowledge and tradition of the fisheries have developed in Ísafjörður, plus numerous new opportunities, predominantly in the rapidly growing sector of tourism. Cruise tourism is nascent in the circumpolar north and communities have the opportunity to guide growth and ensure cruise tourism is and remains sustainable. The number of cruise ships to Ísafjörður has increased steadily since 1996, when only 3 ships arrived in Ísafjörður, in 2013 it is more than 12 times that number and the number of passengers has increased over 2200%. The purpose of this project is to conduct a carrying capacity study, to examine conflicts and quantify the effect of tourism on the local community. This was done through stakeholder interviews, and resident questionnaires. Residents are generally satisfied with the pace of cruise tourism growth and consider it to be an important part of the economy. Cruise ships benefit the community in the social, development and economic areas; however, the environment is the area of most concern for all residents. The locals indicate the benefits have been accumulating over the years and the current point may be the greatest difference between benefits and costs, which is driving cruise tourism through the development stage. Limits have not been reached yet and services are the short-term limiting factor, however, mass tourism is rapidly approaching. Based on these values, assets and limitations, a local action plan is recommended in order to help the municipality proactively manage the growing cruise industry in a way that maintains social, economic and environmental health.

Útdráttur

Ísafjörður er fjölmennasti þéttbýliskjarninn á Vestfjörðum og er staðsettur í Skutulsfirði. Hátækni iðnaður og rannsóknir byggðar á reynslu sem og þekkingu í fiskveiðum hafa skapast á Ísafirði, auk fjölda annarra tækifæra þá sérstaklega í tengslum við aukna ferðaþjónustu. Þjónusta við skemmtiferðaskip er nýmynduð atvinnugrein hér á landi og er það í höndum bæjarfélaga að stýra þróun geirans svo atvinnugreinin verði sjálfbær. Fjöldi skemmtiferðaskipa hefur aukist jafnt og þétt síðan 1996 en þá komu 3 skip til Ísafjarðar, árið 2013 margfaldaðist þessi tala 12 sinnum og hefur fjöldi farþega aukist um 2200%. Markmið þessa verkefnis er að kanna þolmörk ferðamennsku, kanna ágreining og lýsa áhrifum af ferðaþjónustu á bæjarfélagið. Til að ná þessu fram var rætt við hagsmunahópa og voru spurningalistar lagðir fyrir íbúa. Íbúar voru almennt ánægðir með fjölgun skemmtiferðaskipa og töldu það vera efnahagslega mikilvægt fyrir samfélagið. Ávinningur af skipunum er bæði félags- og efnahagslegur; aftur á móti er umhverfið sá þáttur sem íbúar hafa mest áhyggjur af. Heimafólk bendir á að tekjur hafa aukist á síðustu árum og hagnaður aukist í ferðamennsku tengdri skemmtiferðaskipum á svæðinu. Enn sem komið er enginn takmarkandi þáttur, en til skamms tíma litið getur þjónustan orðið takmarkandi þáttur, aftur á móti nálgast fjöldaferðamennska hratt. Byggt á þessum gildum ásamt kostum og takmörkunum, er mælt með að til sé aðgerðaáætlun til að aðstoða sveitafélög vegna ört vaxandi iðnaðs í tengslum við skemmtiferðaskip með það að leiðarljósi að. viðhalda félags-, efnahags- og umhverfisgæðum.

Foreword

F1. Executive Summary

Ísafjörður is the largest town in the Ísafjarðarbær municipality and considered the capital of the Westfjords region. United in 1996, the current municipality includes the villages Hnífsdalur, Suðureyri, Flateyri and Þingeyri. After implementation of the quota system, fishing vessels were sold away, reducing the port's traffic. The facilities remained from when the harbor was one of the busiest fishing ports in the country. High-tech industries and research, based on the knowledge and tradition of the fisheries have recently developed in Ísafjörður; plus many new opportunities, mainly in the rapidly growing tourism sector.

Ísafjörður is an attractive destination as it offers many natural opportunities including the Hornstrandir Nature Reserve, hiking and kayaking as well as many cultural opportunities. As the third busiest cruise ship port in Iceland, Ísafjörður welcomes tens of thousands of passengers every year. The number of cruise ships to Ísafjörður has increased steadily since 1996, when only 3 ships arrived in Ísafjörður. In 2013 it is more than 12 times that number and the number of passengers has increased over 2100%.

Cruise tourism is nascent in the circumpolar north and communities have the opportunity to guide growth and ensure cruise tourism is and remains sustainable. Community leaders indicated that Ísafjörður is at a critical tipping point and that research and a development plan are needed. The town has yet to determine its role as a destination in the cruise industry. Impending decisions to develop cruise-specific infrastructure and services could push the town towards mass tourism and destination decline.

In order to guide tourism impacts, this project examined the limits of acceptable change as defined by the residents of Ísafjörður. The purpose of this project was to conduct a carrying capacity study, to examine conflicts and quantify the effect of tourism on the local community. This study relied on both scientific expertise and publicly held knowledge. An ethnographic approach was used to gather qualitative and quantitative data from Ísafjörður and the surrounding communities. A resident survey instrument was used in addition to semi-structured interviews, key-informant interviews, and participant observation.

The initial objective of the municipality was to increase the use of the under-trafficked port facilities to increase revenue and pay for prior investments. Cruise ships were brought to Ísafjörður to stimulate development and economic activity. Residents are generally satisfied with the pace of cruise tourism and consider it to be an important part of the economy. Overall, twenty-seven of the indicators were positive, three neutral and seven negative. The indexes also show the community has a favorable view of the cruise industry and are supportive of its further growth.

Carrying capacity can be measured based on physical, social and environmental thresholds. The interviewees, drawn from multiple sectors, indicate an appropriate size ship for the town is 2.500 passengers. The current harbor capacity is 5 ships per day (3 dock, 2 anchor). The maximum of excursions offered per day is 1,679 excursions. Compared to the global average, only a small percentage of passengers (38%) go on excursions. At this time, not all the cultural, heritage, recreation, and nature options are fully exploited and some are not utilized at all. However, there is significant worry from residents about the environment being over exploited, particularly the fragile habitats of Vigur and Hesteyri. Currently, services and attractions are considered the limiting factor, although it can be easily changed through investment and product development.

At this point of development, residents feel the cruise industry enhances the community fabric. The cruise industry is also viewed as beneficial for the local economy and development. While there are some environmental benefits, significant concerns exist with respect to litter, pollution, peace, noise, and the overall quality of the natural environment. The locals indicate the benefits have been accumulating over the years and the current point may be the greatest difference between benefits and costs - which is driving cruise tourism through the development stage.

Based on these values, assets, and limitations, a local action plan is recommended in order to help the municipality proactively manage the growing cruise industry in a way that maintains social, economic and environmental health. As the saturation point is nearly reached, a sustainable future can be achieved in one of two ways: 1) public and private developers expand amenities and infrastructure to meet the increasing demands from tourists or 2) limits on growth are implemented.

Certain actions must take place right away to reverse negative impacts and ensure the satisfaction of passengers, cruise lines and local residents. Recommendations include a rest area, additional public toilets, designated walkways, hazard free docks, and bus parking. The cruise industry is a service industry, so Ísafjörður must be prepared with the best services and facilities. If the cruise lines or residents become dissatisfied, it is difficult to reverse opinion.

Infrastructural limits can be changed by investment. Minor modifications are rather inexpensive and can be financed through port fees and taxes, but large projects can result in overdevelopment and lost investment. The Ísafjarðarbær municipality needs to consider whether they have sufficient assurance that the port will continue to attract visitors long enough to justify the investment. The large scale dredging and subsequent terminal project in Ísafjörður should be carefully considered so that it is not a loss of investment. In the volatile cruise industry, it is wise to invest in services and not infrastructure. New services should be created instead of pricing the locals out of existing ones. Cruise ships can usher in further tourism, continuing the use of services.

Compared to destinations around the world, Iceland is still in early development and in the future, it is likely that Iceland will have a larger percentage of the global cruise market. As the ships are predicted to be larger, the town may become more and more irritated by the presence of cruise ships. This study has identified numbers based on limits of acceptable change and the carrying capacity of the port and town infrastructure. The harbor authority should set a cap based on current capacity and then re-evaluate contingent on the occurrence of dredging process and service development.

Ísafjörður is in a position to outline its goals and development objectives in a local action plan so that growth in the cruise industry is done sustainably and in line with community values and limitations. This would ensure the local government and community dictate the pace, intensity and direction of growth, rather than the cruise industry. Ideally the plan would promote sustainable development by setting a budget, scale, location, restrictions, physical design, and services for cruise ships. A management plan would protect the environment, target the appropriate cruise market and ensure that new development is compatible with the town image and goals. This would ensure both residents and cruise passengers will continue to enjoy the town, nature and its services.

F2. Íslensk Yfirlit

Ísafjörður er stærsti byggðarkjarninn í sveitarfélaginu Ísafjarðarbæ og má segja að bærinn sé einskonar höfuðborg Vestfjarða. Sveitarfélagið Ísafjarðarbær varð til við sameiningu nokkurra sveitarfélaga árið 1996 og samanstendur af byggðarkjörnunum Ísafirði, Hnífsdal, Suðureyri, Flateyri og Þingeyri. Eftir að kvótakerfinu var komið á laggirnar voru mörg skip seld í burtu frá svæðinu og hafði það stórtæk áhrif á skipaumferð um hafnir sveitarfélagsins. Öll þjónusta sem byggst hafði upp í kringum höfnina í gegnum árin stendur ennþá en höfnin var eitt sinn ein af mikilvægustu höfnum landsins. Sjávartengd starfsemi hefur þróast mikið á Ísafirði á liðnum árum fyrir tilstuðlan þekkingar á fiskveiðum og hefðum tengdum fiskveiðum. Á Ísafirði eru hátækni fiskvinnslufyrirtæki og í tengslum við fiskvinnslu hafa mörg ný tækifæri myndast auk margra annarra tækifæra tengdum ört vaxandi ferðaþjónustu á svæðinu.

Ísafjörður er mjög aðlaðandi áfangastaður og býður upp á marga afþreyingarmöguleika og náttúruperlur og má þar helst nefna Hornstandafriðlandið. Ísafjörður er þriðji fjölsóttasti viðkomustaður skemmtiferðaskipa á Íslandi og býður heim tugum þúsunda skemmtiferðaskipafarþega á hverju ári. Fjöldi skemmtiferðaskipa sem koma til Ísafjarðar hefur aukist jafnt og þétt frá árinu 1996, þegar einungis 3 skemmtiferðaskip höfðu viðkomu á svæðinu. Árið 2003 voru skipin orðin 12 sinnum sú tala og farþegafjöldinn hafði aukist um 2100%.

Ferðaþjónusta tengd skemmtiferðaskipum hefur verið að stóraukast á norðurslóðum og sveitarfélög hafa möguleika á því að stýra aukningunni og passa upp á það að ferðaþjónusta tengd skemmtiferðaskipum verði sjálfbær. Bæjarstjórnendur voru sammála um að Ísafjörður er á ákveðnum "tipping point" og er þörf á þróunarskipulagi og rannsóknum á sviðinu. Bærinn hefur ekki enn mótað framtíðarstefnu í tengslum við ferðaþjónustu tengdri skemmtiferðaskipum. Ákvarðanir um að byggja upp innviði og þjónustu tengdum skemmtiferðaskipum gætu haft þær afleiðingar að svæðið myndi færast nær því að verða fjöldaferðamannastaður og í framhaldi myndi það leiða til hnignunar ferðamannastaðarins.

Til þess að kanna áhrif ferðamennsku á svæðið þá rannsakaði ég mörk ásættanlegra breytinga sem íbúar Ísafjarðar myndu verða sáttir við ef af yrði. Markmið þessarar rannsóknar var að framkvæma rannsókn á þolmörkum og kanna áhrif ferðaþjónustu á samfélagið. Við rannsóknina var stuðst við bæði vísindalega þekkingu og almenna þekkingu. Eþnógrafísk nálgun var notuð til þess að safna eigindlegum gögnum frá Ísafirði og nærliggjandi

samfélögum. Íbúakönnun var notuð til viðbótar við hálf-skipulögð viðtöl, lykilviðtöl og vettvangsrannsóknir.

Það sem sveitarfélagið vildi helst stuðla að var að auka notkun á lítið notaðri hafnaraðstöðu til þess að geta borgað fyrir auka fjárfestingu. Skemmtiferðaskipum var boðið að koma til Ísafjarðar til þess að auka tekjur í ferðaþjónustu og auka þjónustustig í sveitarfélaginu. íbúar svæðisins eru ánægðir með ferðaþjónustu skemmtiferðaskipa og telja hana vera eina af undirstöðum efnahagsins á svæðinu. í heildina litið þá sýnir könnunin það að tuttugu og sjö af þátttakendum voru jákvæðir gagnvart ferðaþjónustu, þrem höfðu litla sem enga skoðun og sjö voru neikvæðir. Könnunin sýnir að samfélagið er almennt séð ánægt með ferðaþjónustu tengdri skemmtiferðaskipum og vilja stuðla að frekari vöxt hennar.

Þolmörk geta verið mæld á þrjá vegu, sem félagsleg mörk, umhverfismörk og eðlisfræðileg mörk. Viðmælendur mínir sem komu úr mörgum stéttum samfélagsins sögðu að hæfilegur farþegafjöldi skemmtiferðaskipa sem hefðu viðkomu á Ísafirði væru um 2500 farþegar. Höfnin getur annað fimm skipum á dag (3 við höfn og 2 við ankeri). Fjöldi útsýnisferða sem hægt er að bjóða upp á hvern dag eru 1,679 ferðir. Miðað við meðaltal á heimsvísu má segja að einungis um 38% skemmtiferðaskipafarþega fara í útsýnisferðir. Hægt væri að fjölga skoðunarferðum fyrir skemmtiskipaferðamenn því einungis er verið að gera út á hluta þeirra afþreyinga, safna og náttúruundra sem svæðið hefur upp á að bjóða. Hinsvegar þá hafa íbúar svæðisins miklar áhyggjur af þolmörkum umhverfisins hafi verið náð, sérstaklega á eyjunni Vigur og á Hesteyri. Eins og staðan er í dag þá er þjónusta og aðdráttarafl Vestfjarða talið vera takmarkandi þáttur þó því geti auðveldlega verið breytt í gegnum fjárfestingar og vöruþróun.

Núna er Ísafjörður á þeim stað í þróuninni að íbúarnir telja að ferðaþjónusta tengd skemmtiferðaskipum sé ein af undirstöðuatvinnugreinum sveitarfélagins og að samfélagið hafi fjárhagslegan ávinning af dvöl farþega. Hinsvegar þá þarf að taka tillit til umhverfisins og þá sérstaklega í tengslum við rusl, mengun, frið, hávaða og náttúrulegs umhverfis. Heimamenn benda á að kostirnir hafi verið að aukast og núna mætti segja að það væri mestur munur á milli ávinnings og kostnaðar. Ávinningurinn er hár og kostnaðurinn er frekar lágur sem gerir það að verkum að ferðaþjónusta með skemmtiferðaskip er að þróast mjög fljótt.

Byggt á þessum gildum og takmörkunum þá þarf að gera aðgerðaáætlun til þess að passa upp á að sveitarfélagið stjórni auknum komum skemmtiferðaskipa á þann veg að þær stuðli að

félagslegu, fjárhaglegu og umhverfislegu jafnvægi. Þegar mettunarpunkti er næstum náð þá er einungis hægt að ná fram sjálfbærri framtíð á tvo vegu: Annarsvegar með því að einkaaðilar og opinberir aðilar auki þægindi og aðstöðu til þess að mæta vaxandi kröfum ferðamanna, eða hinsvegar með því að takmörkunum um vöxt verði framfylgt.

Ráðast þarf í ákveðnar aðgerðir sem fyrst og snýst um að snúa neikvæðum áhrifum og tryggja að farþegarnir verði ánægðir, skipafyrirtækin ánægð og íbúar svæðisins einnig. Helstu tillögur að endurbótum innihalda hvíldarsvæði, bætt almenningssalerni, merktar gönguleiðir, hættulausa hafnaraöstöðu og bílastæði fyrir farþegaflutningafyrirtæki. Ferðaþjónusta tengd skemmtiferðaskipum tilheyrir þjónustugeiranum, svo að Ísafjörður þarf að vera reiðubúinn að veita bestu þjónustu og aðra aðstöðu fyrir skemmtiferðaskip. Ef fyrirtækin sem reka skemmtiferðaskipin eða íbúar svæðisins verða óánægðir þá verður erfitt að snúa viðhorfi þeirra aftur til hins betra.

Þolmörkum er hægt að breyta með aukningu innviða, en það verður einungis gert með aukinni fjárfestingu. Minniháttar breytingar þurfa ekki að vera kostnaðarsamar og væri hægt að nýta þá fjármuni sem koma inn sem hafnargjöld og annað skattfé. Stærri verkefni gætu hinsvegar leitt að ofþróun ferðamannastaðarins og gætu leitt til þess að þær myndu ekki borga sig. Sveitarfélagið Ísafjarðarbær þarf að tryggja að höfnin muni draga að sér fleiri viðskiptavini ef af fjárfestingum verður. Fara þarf alvarlega yfir hugmyndir um að dýpka höfnina á Ísafirði og halda áfram að byggja upp og lengja hafnarkanta. Athuga skal hvort sú fjárfesting muni borga sig til lengri tíma litið. Þar sem ferðaþjónusta með skemmtiferðaskip skal varast að fjárfesta í innviðum en einbeita sér frekar að því að fjárfesta í þjónustu við ferðamennina. Betra er að auka þjónustuna heldur en að verðleggjana hana svo hátt að íbúar svæðisins hafa ekki efni á því að nýta sér hana. Fyrirtækin sem eiga og reka skemmtiferðaskipin gætu aukið komurnar til Ísafjarðar og þar með ýtt undir notkun þjónustunnar.

Í samanburði við aðra áfangastaði úti um allan heim þá er Ísland enn í frumþróun ferðamannastaða. Í framtíðinni er mjög líklegt að fleiri prósent skemmtiferðaskipafarþega muni sækja Ísland heim. Ef að skipin halda áfram að stækka eins og áætlað er að þau muni gera þá munu íbúar bæjarins taka meira eftir því þegar að skemmtiferðaskip eru í höfn. Þessi rannsókn er byggð á tölum um þolmörk ásættanlegra breytinga á höfnina og innviði bæjarins. Hafnaryfirvöld ættu að setja mörk byggð á núverandi þolmörkum og endurmeta svo stöðuna ef að til dýpkunar kemur eða ef að stórar framfarir verða í þjónustuþróun á svæðinu.

Ísafjarðarbær er í þeirri aðstöðu að vera að ákveða markmið sín í tengslum við ferðaþjónustu við skemmtiferðaskip og skrá þau í aðgerðaráætlun sveitarstjórnar þannig að vöxtur í þjónustu við skemmtiferðaskip ætti að fara fram á sjálfbæran hátt og í samræmi við gildi og takmarkanir samfélagsins. Þetta myndi tryggja að stjórnvöld og samfélagið hafi stjórn á hraða vaxtar, styrk hans og stefnu frekar heldur en fyrirtækin sem reka skemmtiferðaskipin. Áætlunin myndi stuðla að sjálfbærri þróun með því að setja upp fjárhagsáætlun, áætlun um umfang ferðaþjónustunnar, áætlun um staðsetningar, takmarkanir, hönnun og þjónustu við skipin sjálf. Áætlunin myndi stuðla að verndun umhverfisins, markaðssetja svæðið á réttum mörkuðum og tryggja að ný þróun sé samhæfð við ímynd bæjarins og markmið. Þetta myndi tryggja að íbúar og farþegar skemmtiferðaskipa myndu njóta bæjarins, náttúrunnar og þjónustunnar mun betur en í dag.

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Acronyms

AECO – Association of Arctic Expedition Cruise Operators

CC – Carrying Capacity

CLIA – Cruise Lines International Association

km – kilometer

LAC – Limits of Acceptable Change (Stankey, Cole *et al*., 1985)

m – meter

TALC - Tourism Area Lifecycle (Butler 1980)

TOMM – Tourism Optimization Management Model (Manidis Roberts Consultants, 1997)

UK – United Kingdom

USA/US – United States of America

VIM – Visitor Impact Management (Graefe, Kuss *et al*.,1990)

VERP – Visitor Experience and Resource Protection (US Department of the Interior, 1997)

VAMP – Visitor Activity Management Planning (Nilsen & Grant, 1998)

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1. Introduction

Tourism has grown immensely in the past decades, largely dependent on using and developing the natural and cultural resources as attractions for visitors (Saveriades 2000). Cruise tourism in the circumpolar north was once limited to a few small expedition vessels but increasingly, mainstream cruise lines are arriving with over 3500 passengers. The Arctic is becoming more accessible, and cruising has increased rapidly in the past two decades. Cruise ships have bolstered the economies of many remote coastal communities; however, these ships can also bring environmental and social problems to these unique areas.

Previous studies (Cerveny 2005, Johnson 2002) on the expanding cruise ship industry have indicated the loss of local control as outside corporations dictated the tourism scene. The influx of large numbers of visitors in a short period of time has the ability to overstretch the usage of community services and facilities. These negative impacts not only diminish the visitor experience, but also cause angst among residents. It is also important to balance cruise tourism with other tourism, while the growth of both sectors is done in a sustainable manner. Additionally, the tourism industry often creates seasonal jobs and promotes the influx of new workers. Escalated use of the environment during the peak visitor season (June-August) has led to competition between visitors and locals for resources and space. Most importantly, tourism has caused changes in the character of community life, pace of life, commercialization, social friction, and cultural exploitation. However, in many cases the economic effects of tourism have been adequately balanced with the socio-cultural and environmental effects. In some instances, this led to the creation of protected areas or parks and many have found benefit in the sharing and learning of cultural traditions through tourism (Maher 2011, Johnson 2002).

There is an increasing interest in the economic and environmental impact of cruise ship tourism, but relatively little consideration is given to the community impact or culture as a resource that requires sustainable management practices. The aim is to study tourism effects on economic and socio-cultural aspects of community life as well as its effect on resident use of resources and the environment. A second aim is to examine the tourism effects on non-cruise industries and the potential for conflict among sectors. For this study, the principal questions are:

- **What kind of change and how much change is acceptable in Ísafjörður?**
- **How much cruise ship tourism is wanted by Ísafjörður residents?**
- **What types of tourism activities should be promoted?**
- **How should current quality of life for residents be maintained in conjunction with cruise ship tourism growth?**

This study will analyze cruise tourism in Ísafjörður and present a list of tools—such as tourism management committees, carrying capacity, port quotas, passenger quotas and congestion fees—that can be used to assess and manage impacts so that Ísafjörður stays within limits of acceptable change. The objective is to explore the effects of cruise ship tourism development on the economy, culture, and human uses of natural resources through the perspective of local residents. Understanding local needs, values, assets and limitations will help the municipality proactively manage the growing industry in the best interest of social, economic and environmental health. Cruise tourism is nascent in the circumpolar north and communities have the opportunity to guide growth and ensure cruise tourism is and remains sustainable.

In order to guide tourism impacts, this project will examine the limits of acceptable change as defined by the residents of Ísafjörður, Iceland. The project's goal is to examine how tourism shapes human communities and then to plan for cruise ship tourism compatible with local values, assets and limitations. This will be done through stakeholder interviews and resident questionnaires, while tourism planning through a series of recommendations regarding marketing, sustainable development of the local tour and attraction base, infrastructure improvements, and measures to mitigate visitor impacts on the environment.

1.1 Ísafjörður – A Community Profile

Ísafjörður is the principal town of the Westfjords (Vestfirðir) peninsula and it is located on an isthmus in Skutulsfjörður. The area is known for its unique natural beauty, towering mountains, and numerous fjords. Ísafjörður was granted municipal status in 1786, after the King of Denmark (who then ruled Iceland) had abolished the Danish monopoly of trade in Iceland. The current municipality, which also includes the villages Hnífsdalur, Suðureyri,

Flateyri and Þingeyri, was united in 1996. Ísafjörður is the main town in the municipality and the capital of the Westfjords region. The entire municipality stretches over 2,400 km^2, from the waterfall Dynjandi in the south, to the Hornstrandir Nature Reserve in the north.

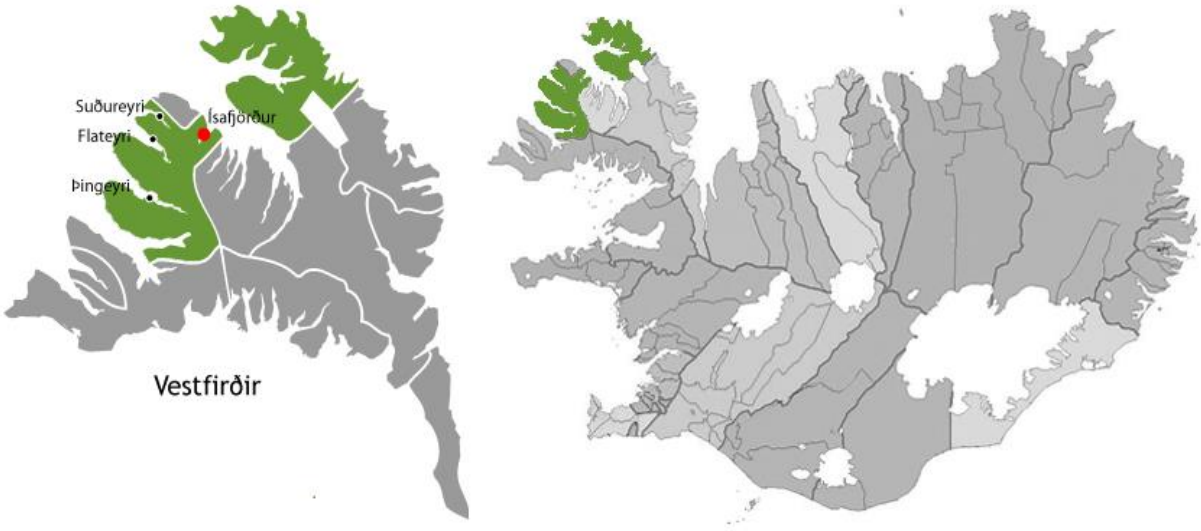

Figure 1: Map of Ísafjarðarbær and its five towns, Hnífsdalur (not pictured) is located 4km north of Ísafjörður. Image adapted from Fjölmenningarsetur, 2013.

Currently there are about 2,700 inhabitants in Ísafjörður. The larger Ísafjörður municipality, in total 5 villages, (known as Ísafjarðarbær) has around 3,800 inhabitants (Statistics Iceland, 2013). Population is dependent on migration and natural increase, i.e. the number of births over deaths. Net-migration has been negative the last 20 years, with more moving from the municipality even though nearly 13% of the region is now foreign nationals. Currently, about 20% of the workforce is employed in the fishing industry. The local and national governments are the biggest employers in town, accounting for some 40% of the workforce between them, while commerce and services employ 18% and industry 11% (Statistics Iceland, 2013). Ísafjörður is the service and governmental center for the region, and its natural, sheltered harbor have made Ísafjörður an attractive place throughout history.

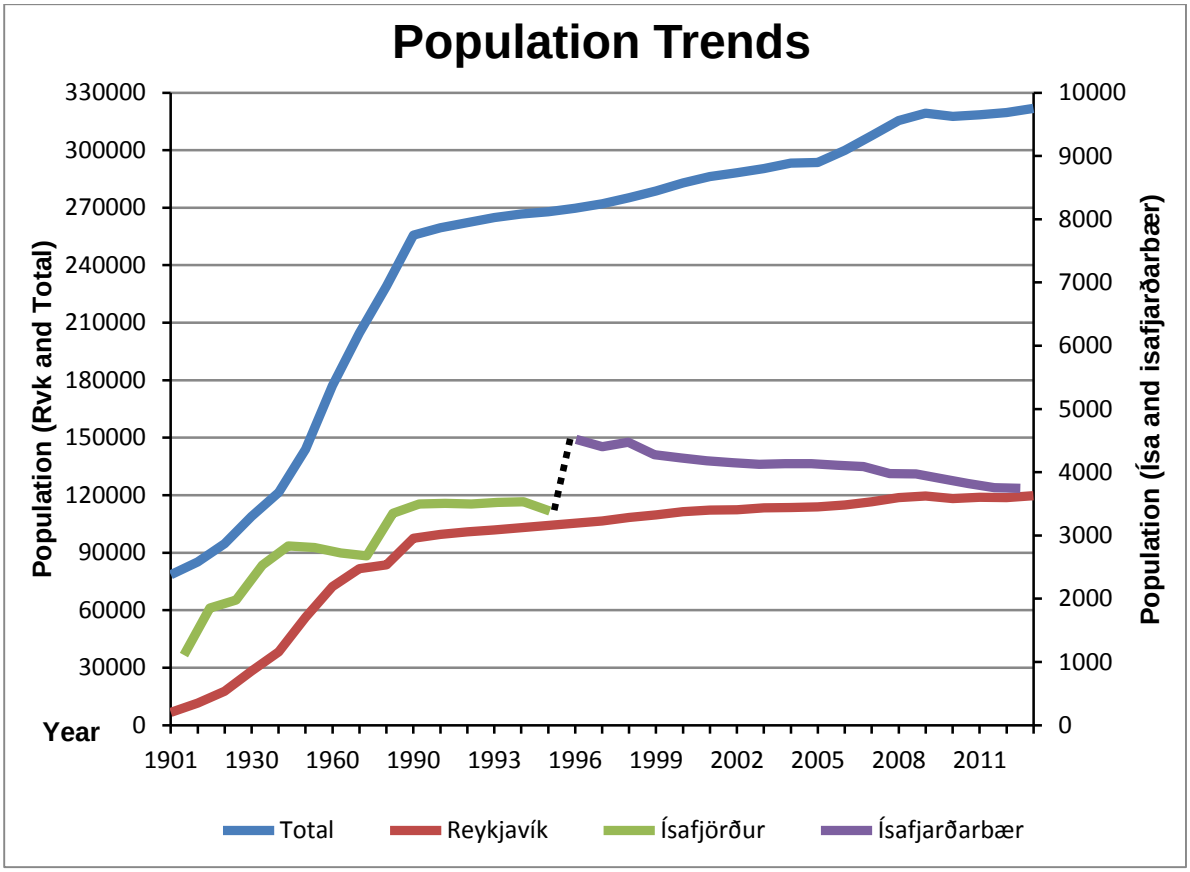

Figure 2: The populations of Iceland, Reykjavík and Ísafjarðarbær (municipality united in 1996).While the population of Iceland and the capital region have increased, the population of the Westfjords and Ísafjarðarbær have decreased. (Statistics Iceland, 2013)

Ísafjörður was first settled in the 9th century by Helgi Magri Hrólfsson, followed by Norwegian and Dutch fishermen. Geography, trade, and the development of the fisheries sector have traditionally had a great impact in Ísafjörður. These robust fisheries spurred urban growth. Merchants from mainland Europe built up the infrastructure of Ísafjörður which became the main trading center in the Northwest. The town is known for its rich culture, from this foreign influence and because it is one of the oldest towns in Iceland. The old town of Ísafjörður together with the heritage museum in Neðstikaupstaður, are some of the oldest buildings in the country.

Growth occurred with the advent of the boat motor the second half of the 19th century when Ísafjörður was the first to use this technology. After the mechanization of the boat fleet in the first decade of the 20th century, the town evolved from a small fishing village to a town with diverse services and robust operations. In the 1980s things changed for the worse in the fishing industry, as well as in the economic life in general. Fishing plants were closed and catch shares moved south, people lost their jobs and many of them moved away to look for new

opportunities (Eythorsson 2000). Little by little the town has managed to bounce back. The fishing industry is still important, although it has changed its focus to a fleet of small boats rather than the big trawlers of the 1970s and early 1980s. High-tech industries and research-based activities built on the knowledge and tradition of the fisheries have developed in Ísafjörður, plus numerous new opportunities, predominantly in the rapidly growing sector of tourism.

1.2 Harbor

When formed in the 9th century, Ísafjörður was an ideal location because of a good natural harbor. The harbor is naturally protected by steep mountains and land spits so the need for man-made protective structures was not as great as in most other towns. Construction of the harbor in its current form started after 1930, although various piers and docks had previously been built. Port amenities conventionally were based on fishing industry, but this is changing to other industries such as freight, recreation and passenger.

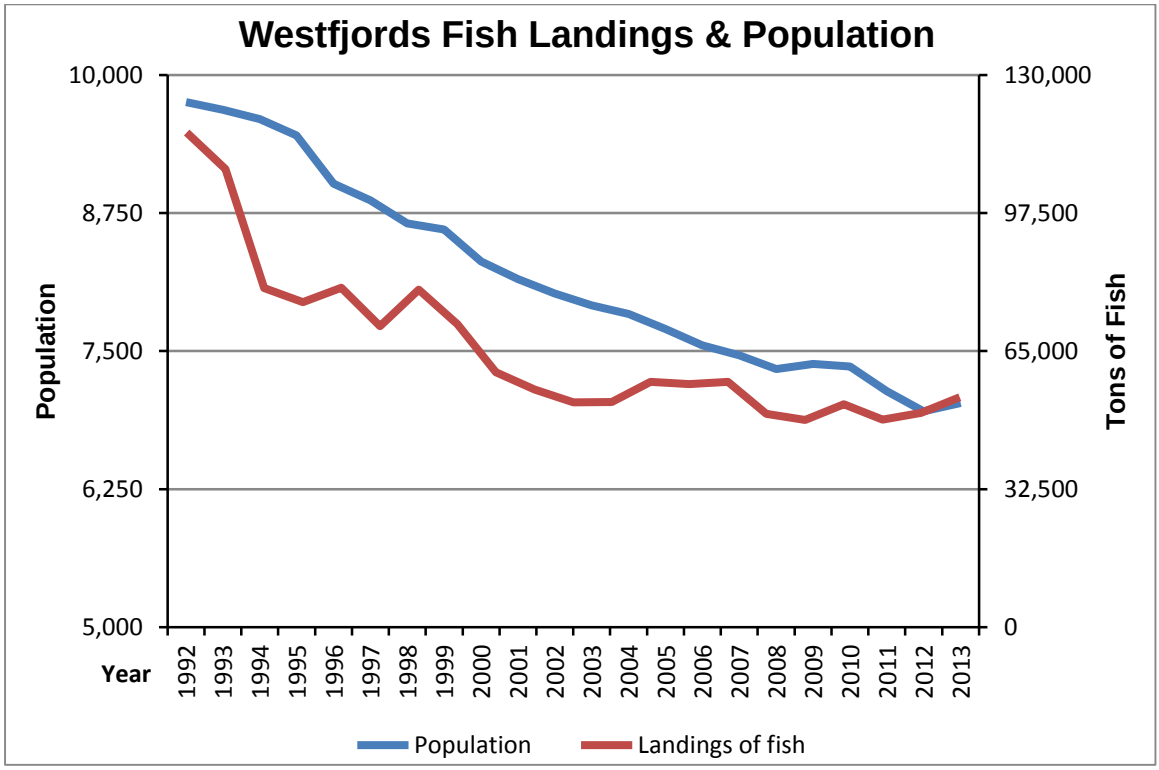

Figure 3: The population decline in the Westfjords is correlated (0.89) to the decline in fish catch as the quota system changed the landings. (Statistics Iceland 2013)

After implementation of the quota system, the fishing vessels were sold away. The facilities remained from when the harbor was one of the busiest fishing ports in the country, but

had little traffic. Landings of fish have continued to decline sharply, reducing the importance of fisheries to the port, while the weight of tourism and recreation has increased. Changes have also been made to freight. Cargo shipping had largely ceased and transferred to land transport, however in March 2013 cargo ships returned to Ísafjörður. Eimskip and Samskip added Ísafjörður to their shipping routes once weekly and every other week, respectively.

As the third busiest cruise ship port in Iceland, Ísafjörður welcomes tens of thousands of passengers every year. The number of cruise ships to Ísafjörður has increased steadily since 1997, when the harbor administration began a systematic marketing effort. In 1996 only 3 ships arrived in Ísafjörður, today it is more than ten times that number, while the number of passengers has increased 2200% to 39,000 in 2013 (Guðmundur Kristjánsson, Harbormaster logbook). Visiting cruise ships can carry passenger numbers which exceed the town´s population. The town is a short walk from the pier, and tourists wander its streets and back alleys en masse looking to experience its many delights. Due to its relatively small population size and the configuration of the docks in Reykjavík and Akureyri, Ísafjörður is unbuffered and the most likely town to suffer from serious cruise ship tourist congestion.

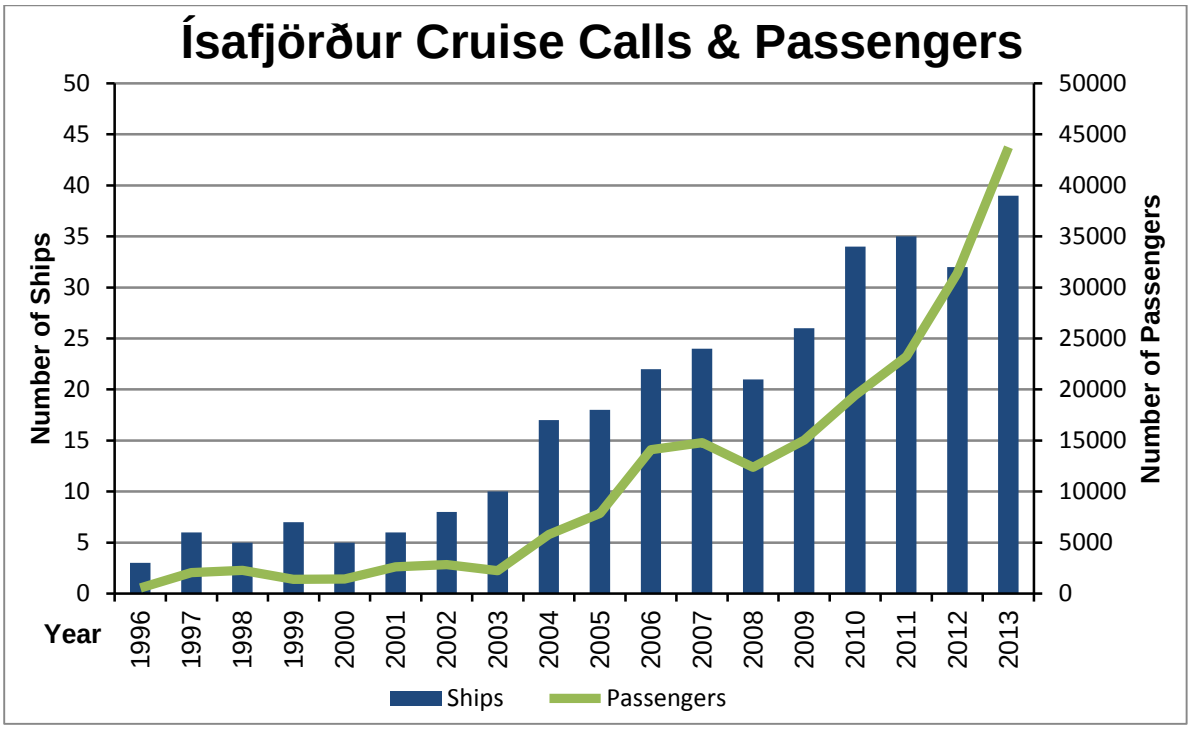

Figure 4: Number of cruise ships calling in Ísafjörður coupled with number of passengers. While the number of vessels has increased, the number of passengers per vessel has increased faster in recent years.

The harbor administration has been waiting for funding to dredge the harbor channel and move facilities for cruise ships to Ásgeirsbakki (see Figure 5). This will increase space for other industries, such as fishing and shipping. This also increases the ability to receive more ships simultaneously. Approaching passengers will also be better connected to the city center. It is also expected that it will be possible to build better facilities for travelers at Ásgeirsbakki (Teiknistofan Eik ehf 2009). Ásgeirsbakki was recently renovated and the draft limitation was increased to 10m. The Pollurinn itself is 13m-15m deep, so the only limitation to bring the big vessels inside is the channel, which is 7.5m deep and very narrow, only 60m wide. "*So we have been applying for subsidy to dig it out to 100-120m wide, a straight line in, and 12m deep,"* says the Harbormaster Guðmundur, *"It is quite a big project, very expensive, but if we are able to do that, we can bring any vessel alongside here"* (personal communication, 3 October 2013). Upon completion of the dredging, Ásgeirsbakki will be dedicated as a cruise pier.

*Figure 5: Facilities of Ísafjörður harbor. The primary tender dock is indicated by * and the secondary tender dock also lies within the small boat harbor. The anticipated dredging will occur between the tip of the peninsula and the airport. Photo from Ágúst G Atlason*

1.3 Cruise Industry

The cruise industry has seen tremendous growth, experiencing 2100 percent growth since 1970 when only 500,000 people took a cruise. In 2011, the cruise industry generated US$40 billion in overall economic activity and 350,000 jobs (Hoogkamer 2013). Vessels range in size from the gigantic (Royal Caribbean's *Oasis of the Seas*, carries 5400 passengers and 2165 crew) to the small elite (*Polar Pioneer*, carries 56 passengers and 20 crew). The majority of the fleet today is in the 3000 to 4000 passenger range. International cruisers average 46 years of age, with above-average (US$93,000) annual household income (CLIA 2013). Based on a study conducted in Akureyri during the summer of 2004, the average age of a cruiser to Iceland is 52, only 13.7% were native English speakers and 57.3% were German (Karlsdóttir 2004). The average spending in Reykjavík was ISK 6534, with a large percentage not spending at all and others spending upwards of ISK 100,000 (Karlsdóttir 2004). Overwhelmingly cruise passengers were content with Iceland as a destination and three quarters of passengers said they were likely to visit Iceland again.

Table 1: Passenger numbers for three cruise markets. From Iceland Tourism Board, Ísafjörður Harbor Authority, and Cruise Lines International Association (CLIA) which account for approximately two-thirds of the total market and 97% of the North American market.

	North America	Iceland	Ísafjörður
1996	4,970,000		565*
1997	5,380,000		2,064*
1998	5,868,000		2,267*
1999	6,337,000		1,384*
2000	7,214,000	26,900	1,435*
2001	7,499,000	29,000	2,632
2002	8,648,000	31,600	2,840*
2003	9,526,000	32,800	2,242
2004	10,460,000	46,900	5,800
2005	11,180,000	57,500	7,845
2006	12,006,000	58,000	14,108
2007	12,563,000	56,200	14,804
2008	13,005,000	62,300	12,386
2009	13,442,000	72,300	15,054
2010	14,819,000	73,600	19,442
2011	16,320,000	65,800	23,227
2012	17,200,000**	96,500	30,015
2013	17,600,000**	100,000**	39,050
Percent Increase (2000-2013)	227.14%	271.75%	2197.06%

*Estimates based on maximum berths, Ward (1997 & 1999)
**Projections

Over the years, cruise ship operators have expanded itineraries to include more diverse ports of call. To meet the changing patterns and preferences of customers, most cruise lines work around specific cruise themes and voyage lengths (Rodrigue & Notteboom 2013). Cruise operators try to force competition between destinations to initiate the development of bigger and better port infrastructure and shore passenger amenities – often using local public funding at no cost to the cruise lines (Manning 2006). Onboard amenities and facilities now include cell phone access, Internet cafes and wireless fidelity (Wi-Fi) zones, rock-climbing walls, bowling alleys, surfing pools, themed restaurants, health and fitness centers, expansive spas and multi-room villas.

The global rate of increase in cruise tourism has been continuing and stable, and there is little information about the market potential and when a saturation point could be reached (Rodrigue & Nottebom 2013). Compared to the millions that cruise other parts of the world or thousands that come to Iceland by airplane, the number of cruise passengers seems insignificant. However, nearly one in 8 travelers to Iceland is by cruise ship and of the others, half only come as a stopover at the airport. Therefore, the estimated 100,000 cruise ship passengers account for more than 20% of Iceland's visitors. Moreover, it is the fragile environment and unique character of the destinations cruise ships visit and the rapidity of increase which is alarming.

2. Literature Review

A number of studies have explored the effect of cruise ship tourism on ecosystems and the environment, in addition to several tourism economic studies, but little research has been conducted to explore the relationship between cruise tourism and human-resource interaction. The few tourism related carrying capacity studies have typically concentrated on island communities and much of the research relates to tourist enjoyment. Most previous research is on similarly small, remote, and environmentally distinct locations – adequate for comparison to Ísafjörður.

2.1 Sustainable Tourism

Sustainability was first described by Wes Jackson in his writings about agriculture and prairie function (Jackson 1978). The most common definition is that described in the United Nation's Our Common Future report in 1987 as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland 1987). The concept of sustainable development evolved from maintaining natural resources for present and future generations to include values associated with cultural and community diversity, concern for social issues (justice and fairness) and an emphasis on stability (Ahn et al. 2002).

Tourism relies upon and consumes resources; therefore, the principals of sustainable development can be applied to tourism. If the resources upon which tourism relies are degraded or destroyed, then tourism itself will lose its entire purpose. Sustainable tourism grew out of this broader concept and strives to properly maintain and protect the environment, including natural, cultural, and historical resources, for both local communities and visitors (Bramwell & Lane 1993). For tourism development to be sustainable, Butler (1991) emphasized early planning which incorporated co-ordination of policies, acceptance of limits on growth, pro-active planning and commitment to a long-term vision. The primary objective of sustainable tourism development means enhancing the welfare of those affected by it, through increased economic opportunity, preservation of the local community's culture and natural resources, and improved quality of life (McCool & Lime 2001).

2.2 Residents' Attitudes Toward Tourism

Although attitudes can range across a community, tourism researchers have organized entire communities into categories and linear models. One of the best known models is the Irridex or Irritation Index developed by Doxey (1975). This model suggests communities pass through a sequence as tourism develops in a destination. The first stage is described as *euphoria*. In the initial development stages, visitors find their own way to the destination, little marketing exists and the community has few tourism amenities. Residents welcome these new adventurous travelers who bring new income to the community. Over time as visitation increases, the *apathy* stage is reached. Some members of the community take commercial advantage of the growing tourism, while others criticize the changes in their community. At this point the novelty and enthusiasm has worn off as both development and marketing take hold. The next stage is called *annoyance*, as residents become irritated by the number of tourists in their community. Saturation is nearly reached, and both public and private developers expand amenities and infrastructure to meet the increasing demands from tourists instead of limiting growth. It is also at this point that outside interests may enter the community. The final stage, called *antagonism*, is when the area has grown into a mass tourist destination. Residents no longer welcome tourists and the community no longer appeals to the "niche" tourists and only has appeal to the "less-discriminating" touring masses (Harrill 2004).

The tourism continuum, proposed by Ap & Crompton (1993), closely mirrors that of Doxey´s irridex. At first residents *embrace* tourism. Locals are favorable towards the idea of tourism and receive direct benefits from it. This is followed by *tolerance*, which is described as slight acceptance as tourists are seen as simply a part of daily life. In the *adjustment* phase, residents absorb costs and inconveniences connected to tourism impacts and may change their routines to avoid interaction with tourists. The final stage is *withdrawal* and at this point residents go out of their way to avoid tourists and disengage from the industry. Tourism is resented and locals may leave the area during peak season.

Smith & Krannich (1998) classify communities into three categories. The *tourism-hungry* communities strongly desire more tourism and perceive tourism contributes more to the local economy than it actually does in the current situation. Communities which are *tourism-realized* have a moderate and steadily increasing amount of tourism. Residents are hesitant about future growth of tourism. Finally, a *tourism-saturated* community is characterized by a high level of

development at which locals no longer want more tourism. These residents perceive greater negative impacts and have lower amounts of satisfaction with the industry.

These prior models assume a whole community is homogenous, but communities are often heterogeneous and different sections of society may have different attitudes. Davis et al. (1988) segmented individual residents into five categories. Tourism *lovers* are extremely supportive of tourism and growth. Those that *love 'em for a reason* approve of the industry because of the opportunities it provides, similar to lovers but not as strong. *Cautious romantics* are in favor of tourism as they appreciate its benefits but are also anti-growth. *In-betweeners* have middle opinions on the benefits and growth of tourism. *Haters* possess strong sentiment against both tourists and growth.

These stages parallel the tourist destination life cycle (Butler 1980). It can be difficult, but it is also important to distinguish between community and individual tourism attitudes and research must look for both of the two groups. If a strong unified identity is felt by a community, it is better able to determine what types and levels of tourism it wishes to host.

2.3 Tourism Area Life Cycle

Butler (1980) describes tourism development as an evolutionary path, which tourist destinations pass through identifiable stages. The Butler (1980) Tourism Area Life Cycle (TALC, Figure 6) model takes the form of an S-shaped curve that represents a cycle of rapid growth followed by stabilization. As in ecology, the carrying capacity is reached at this stagnation point. Both the number of tourist arrivals (y axis) and the rate of increase (slope of curve) change over time (x axis) as the destination evolves (Dedrich et al. 2008). While there is no specific timescale, it is expected that destinations would go through the TALC in a few decades at most (Butler 2006).

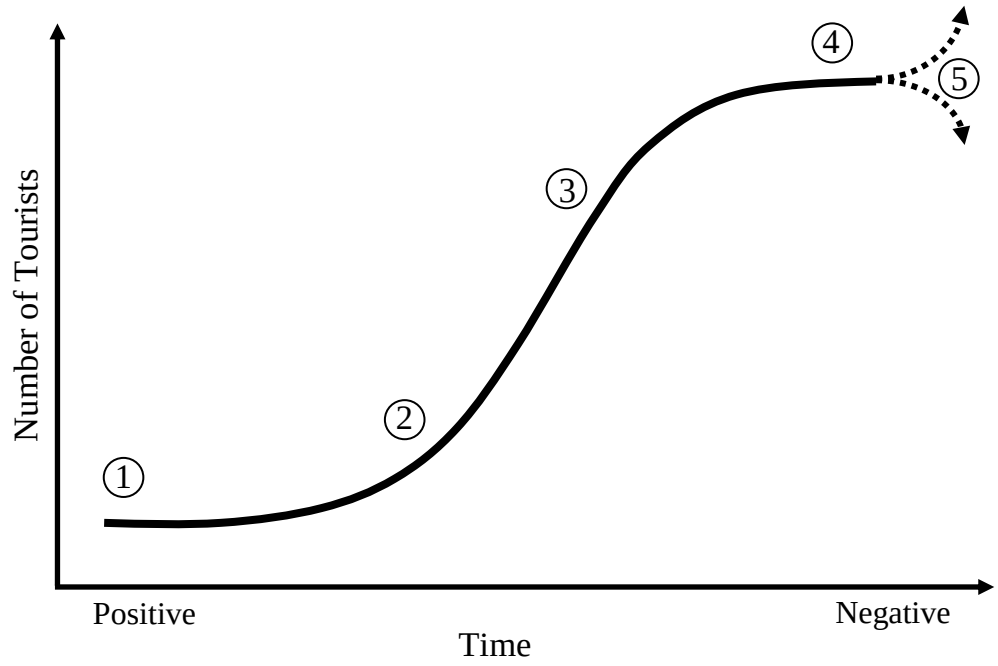

Figure 6: Tourism Area Life Cycle (TALC, Butler 1980). 1) Exploration/Involvement; 2) Development; 3) Consolidation; 4) Stagnation; 5) Decline or Rejuvenation.

The TALC is a generalized pattern of development and potential decline, described in multiple stages (exploration/involvement, development, consolidation, stagnation, and then rejuvenation/decline). The first stage is called exploration, when very few numbers of tourists visit an area due to lack of facilities, knowledge and limited access. The second stage, called involvement, is when members of the local community begin to provide services and facilities. In the context of cruise ships, the exploration and involvement stages are combined because cruise ships cannot come to a destination without infrastructure and community involvement. By the time a place reaches the development stage, it is recognized as a destination and marketing attracts visitors, while the government and investors develop the area. The growth in tourist numbers slows in the consolidation stage and it is characterized by the replacement of small facilities with large tourism establishments. At the stagnation stage, there are no further tourism developments and existing facilities are old and worn. This slows the number of visitors but the area has already undergone degradation. The final stage is a range from decline to rejuvenation. An intervention (of planning, management, and development) can rejuvenate or save a destination from decline and again increase visitor numbers (Butler 2006).

2.4 Carrying Capacity

Rooted in a concept of 'limits to growth', carrying capacity is considered central to the interpretation and implementation of sustainability (Kallis & Coccossis 2004). Carrying capacity is an ecological concept which is defined as the maximum number of individuals of a given species that an area's resources can sustain indefinitely without significantly depleting or degrading those resources (Sayre 2008). The first implementation of carrying capacity in management was in the fields of wildlife and range management (McCool & Lime 2001). In these fields the concern was what number of stock could the specific pasture, range or wilderness maintain over time.

Carrying capacity can be divided into biophysical and social carrying capacity. Not only is tourism constrained by the natural resource base and infrastructure, it is also constrained by social impacts (Brown et al. 1997). The most well-known interpretation for tourism is that by Pearce (1989): *"carrying capacity is commonly considered as the threshold of tourist activity beyond which facilities are saturated (physical carrying capacity), the environment is degraded (environmental carrying capacity) or visitor enjoyment is diminished (perceptual or psychological carrying capacity)"* (p169). However, Pearce fails to include the impact on the social-cultural health of the destination residents. Savarides (2000) describes the two components of social tourism carrying capacity as, *"the maximum level of use (in terms of numbers and activities) that can be absorbed by an area without an unacceptable decline in the quality of experience of visitors and without an unacceptable adverse impact on the society of the area."* Much of the early research on social carrying capacity equates it to visitor motivations and expectations.

In Akaroa, a small island in New Zealand, Lama (2009) assessed tourism carrying capacity from the social perspective. This study surveyed visitors on both cruise and non-cruise days and found the presence of cruise ships affected visitor experience and perception. The overall high level of satisfaction from tourists indicated that the social carrying capacity had not been reached on this small island destination. In addition to uncovering the effects of tourism on social behavior and values, Saveriades (2000) identified a social tourism carrying capacity for tourism in Cyprus. This threshold relied on the identification of an optimal host-tourist contact ratio translated into a per day average.

The physical environment and its supporting ecosystems are renewable resources; however, they are only sustainable so long as they are able to resist external shocks and disturbance. In the Maldives and Nepal, Brown et al. (1997) explored how tourism affected environmental/ecological carrying capacity. This study found that in both the Maldives and Nepal natural resource degradation occurred as a result of tourism and that the ecological carrying capacity was exceeded in these fragile ecosystems.

The concentration of tourism activities inevitably results in environmental, economic, and social impacts. Tourists seek specific attractions, such as animals, landscapes, cultural sites or indigenous people, and their pristine condition cannot be maintained due to tourism itself. The resulting negative feedback loop will ultimately limit the number of visitors to a destination and sustainability is linked to maintaining the authenticity of the site (Brown et al. 1997). Tourism capacity thresholds can be difficult to measure because the components rely on value judgments.

For the purpose of this thesis, the term carrying capacity is used to discuss the ability of Ísafjörður and the municipality to physically contain and serve a population of tourists and residents without damaging culture, the environment or services. When it comes to limits, there is also a focus on technical issues (what *can* be) versus value choices (various possibilities of what *ought* to be) (Wagar 1974: 274). Carrying capacity occurs under the assumption that conditions are static, so in this thesis, carrying capacity refers to the biophysical or technical limits under the current conditions.

2.5 A Change in Ideology

It has become apparent that carrying capacity is complicated, even for pastureland where application seemed feasible. Carrying capacity was not only dependent on the size of the animals but also their behavior, amount of investment, the land owners' objectives and the characteristics of the environment (McCool & Lime 2001). Even in these animal systems, the cause-effect relationship is nonlinear and there is imperfect information. In tourism, the application is even more difficult as tourists are neither cattle nor do they all behave alike (Trousdale 1997). Furthermore, an individual area can have multiple capacities – low, if it is designed to provide solitude and a pristine setting or high, if it is for social and recreational activities. There are an infinite number of objectives, and the development of these objectives

is a purely social process. If both visitors and locals support a variety of objectives – which are the most important perceptions, and how can a capacity be settled upon?

There are specific situations (parking lot, toilets, dock space, ect.) where numerical carrying capacities may be appropriate, but these situations are limited (McCool & Lime 2001). There is a change from 'how many tourists are wanted' to 'how much change is desired'. Instead of saturation points and carrying capacities, sustaining the desired conditions is the primary concern. Carrying capacity may not provide an easy answer for Ísafjörður. There is no way to determine that amount of tourists that can be accommodated without deteriorating conditions because at any level of tourism, impacts cannot be avoided.

Instead of focusing on the numbers, this study will focus on the biophysical and social conditions desired by the residents. Based on the objectives and conditions favored, management of the environment and town can be established. To achieve this, several planning frameworks have been established including: the Limits of Acceptable Change (McCool, 1994; Stankey, Cole *et al*., 1985), Visitor Impact Management (Graefe, Kuss *et al*.,1990), Visitor Experience and Resource Protection (US Department of the Interior, 1997), Visitor Activity Management Planning (Nilsen & Grant, 1998) and the Tourism Optimization Management Model (Manidis Roberts Consultants, 1997). These frameworks share a number of characteristics; however, the LAC framework will be used in this study because it uses the residents to assess the amount of change and to highlight problems.

Table 2: Strategies for Assessment

Tool	Actors	Results	First Used	Applied to Cruise Tourism?
Carrying Capacity	Scientists, Managers, Tourists	Defines a limit to the number of visitors to an area	Wildlife & Range Management	Yes
Limits of Acceptable Change (LAC)	Government, Managers, Residents, Scientists	Establishes values for appropriate and desired conditions for each indicator in each opportunity class	1970s US Wilderness Management, USDA Forest Service	No
Visitor Impact Management (VIM)	Managers, Scientists, Tourists	Sets standards for each indicator based on management objectives that specify acceptable limits or appropriate impact levels	National Park Service (US Dept. of the Interior)	No
Visitor Experience and Resource Protection (VERP)	Managers	Strategic decisions based or resource values and quality visitor experiences	National Park Service (US Dept. of the Interior)	No
Visitor Activity Management Planning (VAMP)	Managers	Planning based on managing visitors through their activities	Parks Canada	No
Tourism Optimization Management Model (TOMM)	Tourism managers, Government, Residents	Identify and inventory potentially optimal conditions for tourism to occur	Kangaroo Island, Australia	No

2.6 Limits of Acceptable Change (LAC) Planning Framework

The Limits of Acceptable Change (LAC) framework is a reformulation of the carrying capacity concept, with the primary emphasis shifted toward the conditions desired in the area rather than on how much use an area can tolerate (Stankey, et al. 1985). In the wilderness planning process, issues are decided by people who use (scientist, recreationalists), manage (developers, rangers, fire specialists) or live adjacent (communities) to the resource (Ahn et al. 2002). Management action is taken only if the identified limits are exceeded.

Originally developed as a planning framework in the context of wilderness management and forestry (Stankey, et al. 1985), it has recently been suggested (McCool 1994) that the LAC

framework is suitable for the tourism planning process, particularly if sustainable development is of primary concern. When applied to communities, it provides the opportunity to ask residents, a critical part of the resource, how they feel about development and change (Ahn et al. 2002). The LAC process outlines a sequence of nine steps, first aimed at defining desired conditions for an area when change is imminent and then defining the management strategies necessary to maintain or restore those conditions.

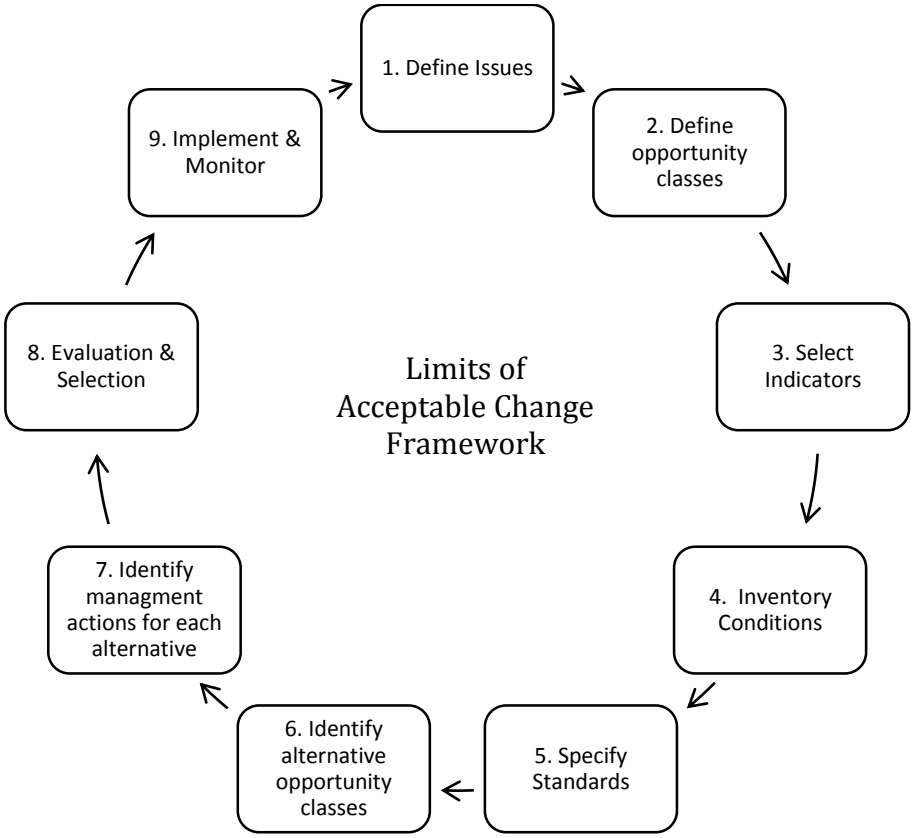

Figure 7: The LAC planning system based on Stakney et al. 1985.

1. Define issues and concerns. Process starts by identifying areas of concern so that desired baseline conditions of a resource area can be determined.
2. Define opportunity classes or zones – subsets of the study area of particular concern
3. Select indicators of resource & social conditions
4. Inventory resource & social conditions – create a baseline study for which change can be measured against
5. Specify standards for resource & social conditions
6. Identify alternative opportunity class allocations
7. Identify management actions for each alternative – analyze the costs and benefits
8. Evaluation and selection of an alternative
9. Implement actions and establish program to monitor conditions

This research will use the LAC planning framework as a foundation and means for determining the perspective of residents living in Ísafjörður toward cruise ships in an effort to help identify the areas of similar perception and issues of common concern and, as well as areas of difference, so they can be incorporated into the larger planning process. Over the course of this research project, a large amount of baseline data will be collected and analyzed. Potential outcomes and mitigation strategies will be presented, but ultimately small working groups of planners, port authorities, municipality representatives, business owners and community members would be required to implement the framework.

3. Research Methods

As the third largest cruise port in Iceland and the smallest town of the three, Ísafjörður was chosen because of the high resident to passenger ratio and the vulnerability of the natural and social environment of the area. The socio-cultural and socio-economic effects would be more visible in this setting. Community leaders also indicated Ísafjörður is at a critical tipping point and that research and a development plan were needed. The town has not yet determined its role as a destination in the cruise industry. Impending decisions to develop of cruise-specific infrastructure and services could push the town towards mass tourism and destination decline.

The goal of this project is to conduct a carrying capacity study, to examine conflicts and quantify the effect of cruise tourism on the local community. This study will rely on both scientific expertise and publically held knowledge. An ethnographic approach was used to gather qualitative and quantitative data from Ísafjörður and the surrounding communities. A total of 15 months were spent in the community and data was collected during the period of May-November 2013. The primary data source was a resident survey instrument in addition to qualitative approaches including interviews and participant observation.

3.1 Quantitative

Data collection consisted of a four-page online survey formatted using Google Drive software. Respondents were given the option to complete the questionnaire in Icelandic or English. In addition to the environmental, socio-cultural and socio-economic indicators, the questionnaire contained demographic, local development and general tourism questions.

The first page, consisting of five questions, was demographic information. The second page was limited to Ísafjörður residents and included more specific demographic information and general questions related to town development in order to understand the priorities of residents. The responses were measured using a five point Likert scale ranging from very unimportant to very important, with a middle of neutral. The third page began with questions of residence and place attachment. In order to determine what types of tourism are favored, the next items related to the impact of general tourism activities. Answers were given on a scale of not at all, a little, to a lot, with the option of don´t know. The following questions were a mixture of knowledge of the presence of cruise ships and the attitudes toward them. The responses were measured using both multiple choice and a five point Likert scale ranging from

strongly agree to strongly disagree, with a middle of neutral. The next section included 11 indicators to measure daily changes. The final page included 28 indicators for long-term changes to the environment, society or town. The responses for indicators in both sections were on a six point scale ranging from very negative impact, with indifferent in the middle, to very positive impact, along with the option of do not know/will not answer. The final page also included 4 questions about cruise and personal economics. See appendix for questions.

The predictor variables (neighborhood, residence status, place attachment, tourist contact, and income from tourism) were chosen because of their documented influence on attitudes toward tourism development (Harrill 2004, Andereck et al 2005, Dedrich et al. 2011). Generally, the relationship between attitudes and demographic variables has been inconsistent so they were not included in analysis. The indicators were selected based on previous application of the LAC framework to tourism settings (Ahn et al. 2002, Andereck et al 2005, Frauman & Banks 2011). Indicators can be grouped into 3 main categories: environmental, socio-cultural and socio-economic (Ahn et al. 2002). There are three sub-categories for the socio-cultural grouping. For analysis, community development was used as a main category.

Table 3: LAC opportunity classes for indicators.

Environmental	*Socio-Cultural*	*Socio-Economic*
Clean air and water	**Community Life**	Number of jobs for residents
Peace and quiet	Resident participation in local gov't	Number of jobs for foreigners
The beauty of my community	My personal life quality	Businesses owned by residents
Amount of open space	Community spirit	The value of my house and/or land
Amount of wildlife	Participation in local culture	Personal income
Amount of pollution	An understanding of different cultures	Amount of local tax
Amount of uncontrolled development	Friendships and social relationships among residents	Fair prices for goods and services
Quality of the natural environment	Chance to meet new people	Ability to conduct everyday business
Amount of litter	Quality public transportation	
	Number of people	
	Awareness of cultural heritage	
	Community Development	
	Bicycle/Walking paths	
	Ability to use recreation areas	
	Variety of restaurants	
	Variety of entertainment	
	Variety of shopping facilities	
	Preservation of historical buildings	
	Amount of new buildings	
	Community Problems	
	Amount of car traffic	
	Amount of noise heard	
	Crowding and congestion	
	Safety from crime	

An article about my study published in the local newspaper Bæjarins Besta in September generated an initial 49 responses. Subsequently, 107 responses were generated through an email sent to residents by the regional development agency, Atvest. The final 102 responses were obtained through the conjunction of a follow up email and printed newspaper article. The survey information could be obtained in three ways: print newspaper, bb.is Facebook/webpage, and email. The email list-server contained a total of 351 addresses, of which 12 were invalid and 2 responded with a written decline. The initial email response rate was 32.0%, and it is impossible to calculate a final response rate due to the combination with the newspaper article. A total of 259 surveys were completed, 249 in Icelandic and 10 English surveys. The survey covered 10.6% of the town of Ísafjörður (217 responses) and 9.0% of the entire Ísafjarðarbær municipality. The margin of error is calculated to be 6.4% for Ísafjörður, 5.9% for Ísafjafðarbær and 17.1% for the combined other four municipality towns. While insignificant, information gathered from the outlying towns can show trends and will be used for comparison.

Data analysis was conducted using Microsoft Excel Statistical Software with the Real Statistics Resource Pack (Zaiontz 2013) as well as R Statistical Software (R Core Team, 2012). A simple mean was calculated for each indicator. The one sample *t*-test was used test for a difference in mean between the individual indicators and hypothesized mean (neutral). This test is useful when the population standard deviation is unknown preventing use of the *z*- test. For comparative purposes, Indexes were created by combining multiple indicators into a single numerical score. A composite score for two areas, growth and favorability, provides a broader view and captures the direction, level and intensity of the resident observations (Neuman & Neuman 2002). ANOVAs were run using R Statistical Software to determine relationships between the predictor variables and the Indexes. ANOVAs were also chosen to compare the predictor variables to the indicator category means.

3.2 Qualitative

In-depth interviews and participant observation, following an ethnographic approach, provide deeper insight into the tourism-community relations. Combining multiple methods to gather data - documents, interviews, observations, and surveys – gives more insight into a topic. These multiple sources provide validity by cross verifying the information. The data collected in the surveys was confirmed in the interviews, and provided deeper insight.

Semi-structured interviews, to allow flexibility in responses, were conducted with members of important social groups, stakeholders and neighborhoods. Interviews were conducted at the place of work and interviewees were encouraged to answer both personally and about the community in general. This qualitative data supplemented the survey which gathered information from a large, representative population sample. In total, 12 interviews were conducted and all generated insightful comments and supporting material for this thesis.

3.2.1 Key Informant Interviews

For this study, key informants were identified based on their leadership role in government, including municipalities, federal agencies, and nonprofit organizations. Key informants also are drawn from the tourism economy, business associations and tourism providers. These semi-structured interviews were recorded and lasted approximately one hour. The questions were focused on future development, facilities & resources (equipment), products & services, marketing, economic gains and employment. The goal was to obtain information on physical capacity, the direct economic impact and the various development options.

- Harbormaster
- West Tours Cruise Manager
- Town Engineer
- Information Services

3.2.2 Stakeholder Interviews

Tourism typically results in winners and losers. Physical space and resources are shared with cruise ships, tourists and residents. Interviews of businesses and individuals outside the cruise tourism industry assessed the distribution of cruise ship impacts and determine if they are positive or negative for other sectors. The questions were grouped into three groups: personal background & community questions, cruise ship impacts, and business/work questions. Semi-structured interviews were conducted to gain insight on the views of other sectors toward cruise ship tourism.

- Lodging
- Attractions
- Tourist Shop
- Local Shop
- Cafes & Restaurants
- Dock worker (freight/fishing)

3.2.3 Infrastructure & Services

The landscape, cultural and ecological tourism sites in Ísafjörður are open access, thus congestion can occur where each additional user reduces the welfare of the other users. To determine a physical or environmental carrying capacity, an assets assessment will be completed according to Manning (2006). The areas include key natural and cultural attractions, port facilities, infrastructure, services and location relative to other destinations and ports. Through the use of maps, documents, and interviews, facilities, infrastructure and services were inventoried. The infrastructure and facilities used by cruise ships and passengers will be united with bus routes, attractions and services to identify the limiting factor and calculate a daily threshold. Use above the capacity will lead to degradation of natural and cultural resources. This will determine if the cruise industry is operating sustainably in Ísafjörður and highlight the limiting factors and areas where development is possible or necessary.

3.3 Socio-Economic

This study does not focus on the economic impact of the cruise ship industry, but it cannot be ignored in the context of management. The socio-economic assessment will examine the social, cultural, economic and political conditions of stakeholders including individuals, groups, and communities. Estimating the total economic impact of cruise ships requires quantifying the relevant direct expenditures and the secondary effects related to these initial expenditures. Total economic impact is comprised of three components: direct effects, indirect effects and induced effects. *Direct Effects* are the docking, tendering, mooring and pilot fees collected by the harbor authority. Direct effects also include the on-site expenditures by passengers, such as excursion fees, meals, souvenirs and taxes. *Indirect Effects* refer to the increase in economic activity that occurs when a contractor, vendor or manufacturer receives payment for goods or services and in turn is able to pay others who support their business (Fedler & Hayes 2008). This includes payments to bankers, accountants, truck & bus drivers, tourism operators, fuel suppliers and others. As more income flows directly and indirectly into the community, residents change their spending habits. These *Induced Effects* are changes in spending patterns for things like food, clothing, housing or transportation - including retail sales, medical services, insurance services, income and sales taxes, and much more (Fedler & Hayes 2008). The combined *Indirect Effects* and *Induced Effects* are often referred to as *Value Added* impacts. The sum of the *Direct Effect* and *Value Added* impacts yields an *Economic Effect*.

Information obtained in interviews and data from key informants will be used to assess whether the Ísafjarðarbær municipality benefits from cruise ship visits. Information will also be useful in the cost-benefit analysis used to assess alternatives and outcomes in the LAC framework.

4. Results

A total of 259 surveys and 12 interviews were collected, providing both extensive quantitative and rich qualitative data. The survey results and analysis will be presented first. The qualitative data is incorporated into the Infrastructure & Services and Socio-Economic analysis.

4.1 Survey Results

4.1.1 Ísafjarðarbær Demographics

Table 4: Sample characteristics.

Community	Ísafjörður	Hnífsdalur	Suðureyri	Flateyri	Þingeyri	Municipality
Population (over 18)	2670 (2033)	218 (155)	281 (208)	258 (209)	335 (264)	3762 (2869)
Sample Size	Total 217: Uptown 54; City Center 101; Inner Fjord 40	7	11	9	6	250*
Percent of Sample	84.1%	3.5%	4.3%	2.7%	2.3%	
Gender (%)						
Male	51	44	82	43	50	52
Female	49	56	18	57	50	48
Age (%)						
18-24	3	-	-	-	-	2
25-34	17	33	-	29	-	17
35-44	18	11	27	29	17	18
45-54	37	44	55	43	17	38
55-64	17	0	9	-	50	16
65+	8	11	9	-	17	8

*8 respondents indicated „other“, 1 did not indicate town.

Table 4 shows selected demographic characteristics of the sampled inhabitants including the number of residents (population figures from 1 January 2013), sample size obtained for the study, gender and age. Although the highest and lowest age groups were under represented, the results show a reasonable balance of age and gender (see Figure 7). Ísafjörður was the targeted population, thus has the highest percentage of the sample and most even distribution.

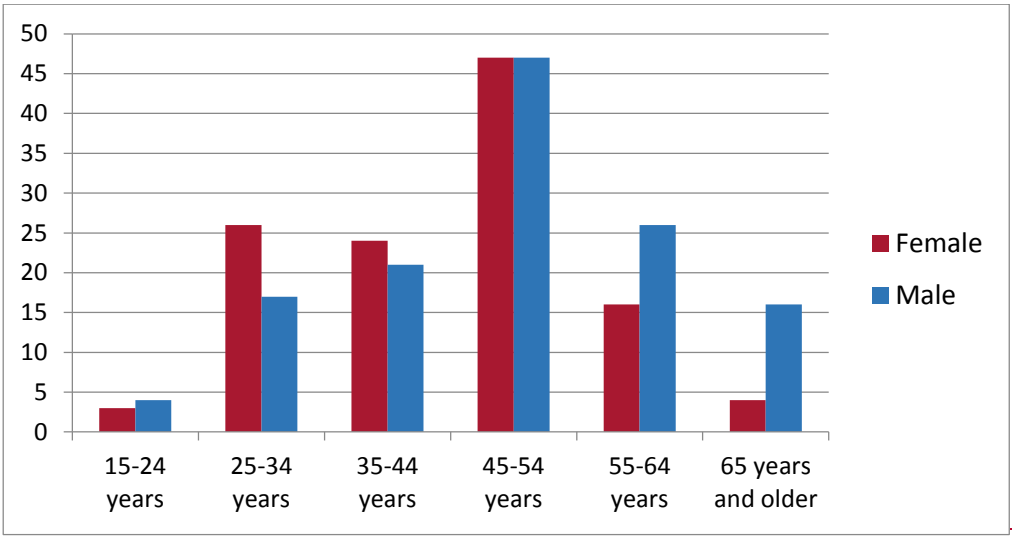

Figure 8: Distribution of age and sex for Ísafjarðarbær survey respondents.

Table 5 shows the frequency of responses to each residency category to determine an individual's place attachment. Percent was calculated based on the total number of surveys (259). Respondents were allowed to choose more than one answer, thus the percentage is 115.8% and the total responses exceed the total number of surveys (300). All my life, More than 20 years and More than 10 years could not be marked together. Cruise ships have been arriving in Ísafjörður since 1996 and approximately 74% of respondents were living in Ísafjarðarbær before this time. Only 7.3% of surveyed residents specified they lived in Ísafjarðarbær as a child, which indicates only a small percentage of those who leave return to the municipality. A total of 21.2% indicated they immigrated and based on those who chose to write the location, 11.6% were foreign and 89.5% were domestic migrants. Foreign countries included Germany, Russia, Denmark, England, Italy and Thailand. The large majority of responses were from year round residents and of the 5.9% who do not reside year-round, 11 were from Ísafjörður and 4 an unspecified other. Since the survey was conducted in summer, it can be assumed these are seasonal summer residents.

Table 5: Ísafjarðarbær Resident Status.

	How long have you lived in Ísafjarðarbær?					Year Round Resident?	
	All my life	When I was a child	Immigrated	More than 10 Years	More than 20 years	Yes	No
Percent	32.8%	7.3%	21.2%	13.1%	41.3%	94.1%	5.9%
Sample Number	85	19	55 (Foreign 6 (11.5%); Domestic 46 (89.5%))	34	111	242	15

A total of 189 respondents provided the source of household income, of these 134 provided 2 occupations for a total of 318 jobs. Most respondents wrote an industry but some wrote specific jobs – these were categorized into employment groups. Fisheries are the most important occupational group in Ísafjarðarbær, followed by services and industry/manufacturing. Tourism shares the fourth spot with public services and government. Services and tourism, which is a subset of the service industry, is over-represented in this study. It is common for individuals to hold multiple jobs, so a single worker could indicate two industries. Many of the tourism and services jobs are seasonal or part time which could account for their overrepresentation. Local and national government, along with other public service jobs account for 40% of the workforce – but are still deficient in numbers even if education and health services are added.

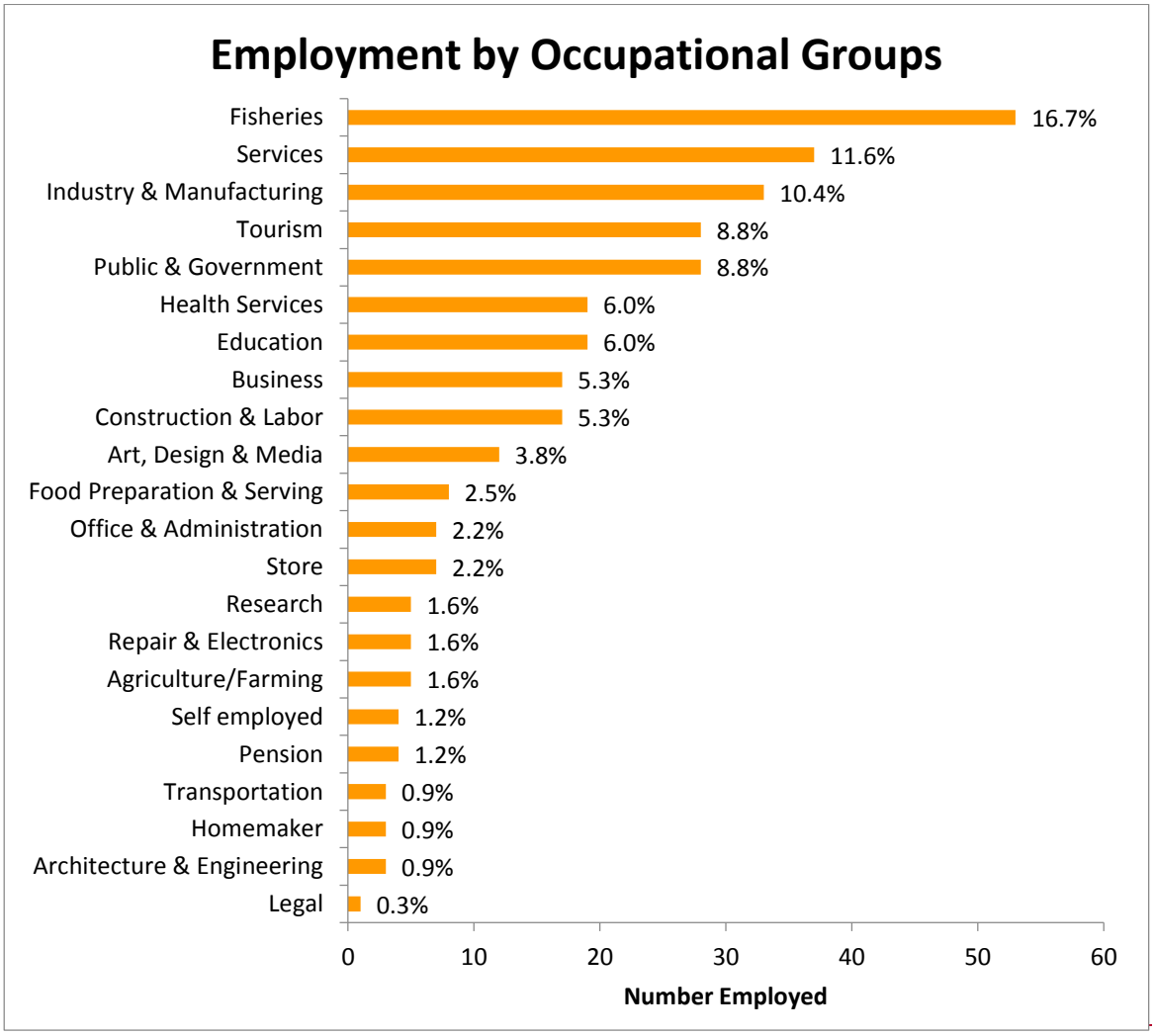

Figure 9: Industry sectors providing household income. First and second most important combined. Occupational Groups: Business (banking, accounting, financial, consulting, marketing, sales); Repair

& Electronics (computer, telephone, car, electrician); Art, *Design & Media (handworks, music, art, design, journalism, photography, editor); Public Service & Government (municipality, national, gardener, water supply, electric company, mailman); Service (hairdresser, security, cultural center); Fisheries (seafaring, processing, ship service)*

The occupations that have a direct link to cruise ships are tourism, services, stores and food preparation & serving. Some specific jobs within the groups of Government/Public Service and Art, Design & Media have a direct economic link. Transportation and business are indirectly linked to cruise ships. The remaining 14 groups have no economic link to cruise ships.

4.1.2 Analysis

All but 3 respondents were aware of a cruise ship in port. These 3 respondents were from Þingeyri which is the only town in the municipality to not receive cruise ships or bus trips. The majority of people are aware a ship is in town based on the number of passengers walking the streets (94.5%), number of buses (50.8%) and newspaper or talk in town (23.4%). Others report seeing the ship, talking with passengers and hearing the ship horn. While the fewest (5.5%) were aware because of the schedule provided by the municipality.

Residents were asked to indicate their amount of contact with passengers which is summarized in Tables 6 and 7. Based on a Chi-square test (p=0.324, p=0.567), this data does not reject the null hypothesis (all locations receive equal contact), which means the differences observed are due to chance and there is no pattern. The results indicate, on average, half the residents receive little contact with cruise ship passengers and approximately a quarter have no contact with passengers.

Table 6: Amount of contact with passengers based on residence in Ísafjörður. (%)

	None	A little	Moderate amount	Large amount
In the Fjord	30.0	55.0	10.0	5.0
Town Center	22.8	47.5	21.8	7.9
Uptown	23.1	48.1	25.0	3.8
Grand Total	**24.4%**	**49.2%**	**20.2%**	**6.2%**

The Town Center (Miðbær) is closest to the docks and attractions – but this does not correlate to a significantly higher rate of contact. Passengers have access to Uptown, but

seldom reach the Inner Fjord by car or foot. The cruise docks are in the industrial district, so amount of contact may be more influenced by job rather than residence in Ísafjörður.

Table 7: Amount of contact with passengers based on municipality town. (%)

	None	A little	Moderate amount	Large amount
Flateyri	28.6	57.1	-	14.3
Hnífsdalur	33.3	66.7	-	-
Ísafjörður	26.5	49.8	18.1	5.6
Suðureyri	9.1	63.6	18.2	9.1
Þingeyri	100	-	-	-
Grand Total	**28.5%**	**49.6%**	**16.4%**	**5.5%**

Although not significant, it is interesting that Flateyri and Suðureyri indicate at the highest level a larger percentage have contact with cruise ship passengers than those in all areas of Ísafjörður which is the town that directly receives cruise ships. Ísafjörður is a larger town, which may be better able to absorb tourists and the contact ratio may be lower than the smaller towns. Alternatively, residents of Flateyri and Suðureyri receive passengers in a different way, by bus, and therefore have a different scale for amount of contact. Hnífsdalur and Þingeyri do not directly receive cruise ship passengers and likewise receive a little to no contact with passengers. Hnífsdalur is only 4km away from Ísafjörður and is easily accessible by bike path. Additionally, many Hnífsdalur residents work in Ísafjörður. These elements may explain the differences between Þingeyri and Hnífsdalur.

Of the seven tourism related activities, cruise ships were considered to have the largest impact on everyday life followed by airplanes, guided tours and photography. Among the least intrusive were sport fishing, tenting and recreation activities (kayaking, horseback riding, bicycling). For cruise ships, residents were nearly evenly split ways between no impact (35.3%), a little impact (36.9%) and a large impact (27.8%). When asked about infrastructure and future development projects, the residents of Ísafjörður ranked road improvements as the highest of importance. A total of 94.9% of residents were in favor of road improvement and 82.9% in favor of tourism facilities, when very important and important were combined. These were also scored the lowest when it came to unimportance, 1.9% and 2.8%, respectively. Although it was the fourth category of seven for very important, tourism facilities were overall considered more important than other town initiatives (new pool, international airport, harbor development, Suðurtanga development, and water front parks/walkways).

When asked about the role cruise ship tourism should have in the economy 10% indicated no role, 35% a small role, 50% a moderate role and 6% the dominant role in the local economy. Due to the seasonality of tourism, it is unlikely to become a dominant industry. However, the majority of residents believe cruise ships should play a role in the economy. Nearly 60% report no income from cruise tourism, but most still see the value for the overall economy and vitality of the community.

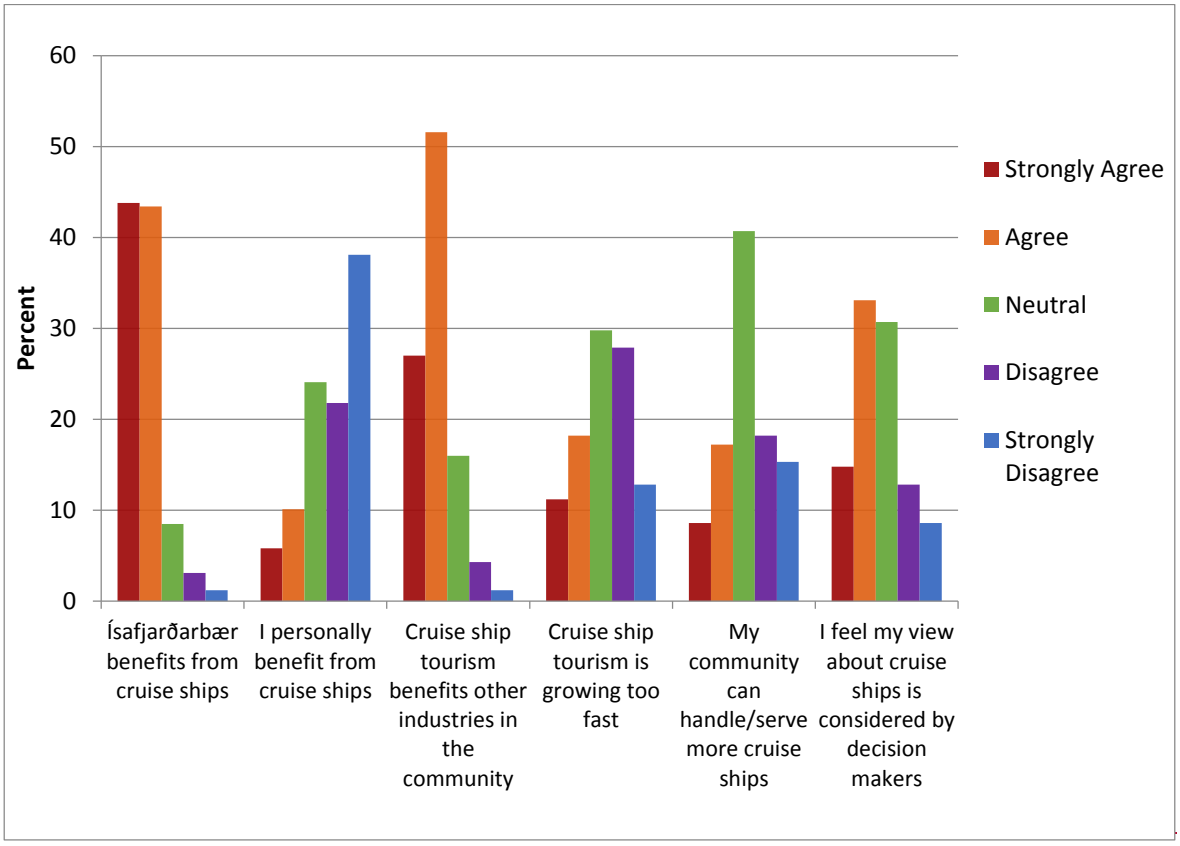

Figure 10: Answers to direct questions shown as a percent. Means and statistics are shown in Table 8.

In general, the results in Figure 9 show that the majority of residents recognize that cruise ships benefit the municipality and industries in town, but few see personal benefit. Although 60% report no income from tourism and 59.9% disagree that they receive personal benefit from cruise ships, these values are not correlated which indicates the measure of benefit is not entirely economic. The low number for personal benefit is also in contrast to the indicators which showed positive results for the vast majority of the economic and social indicators. Alternatively, community benefit may be put ahead of personal costs and would erase any correlation. Even though slightly more residents think the community cannot handle more cruise ships, residents overall do not believe cruise ship tourism is growing too fast.. Currently,

very few residents strongly believe the level of tourism is too high and growing too fast, but the next level of development is approaching and this could quickly change. A large proportion of residents think their opinion is being considered by decision makers, which indicates many residents think the decision makers are making the right choices (choices in their best interest). There is no correlation between those who think their views are considered by decision makers and the other four questions. This means that no particular group thinks their views are not accounted for.

Table 8: Mean local perception of cruise ship tourism in the community. Values range from 1 (strongly disagree) to 5 (strongly agree).

	Ísafjarðarbær benefits from cruise ships	I personally benefit from cruise ships	Cruise ship tourisı benefits other industries in the community	Cruise ship tourism is growing too fast	My community ca handle/serve mor cruise ships	I feel my view about cruise ships is considered by decision makers
Mean	4.26	2.24	3.99	3.13	2.86	3.33
p-value	7.77E-69*	2.59E-20*	2.24E-50*	0.0425*	0.0349*	3.16E-06*

Significance determined by a single sample t-test against a neutral value (3). The question about the growth of cruise ship tourism was reverse coded, this value indicates significantly more residents do not think the industry is growing too fast. Significant (<0.05)*

4.1.3 Indicators

Residents noted both positive and negative impacts, although the positive impacts were more numerous than the negative. None of the development indicators were rated negatively. The socio-cultural and economic indicators were notably more positive, while the environmental indicators were evenly split.

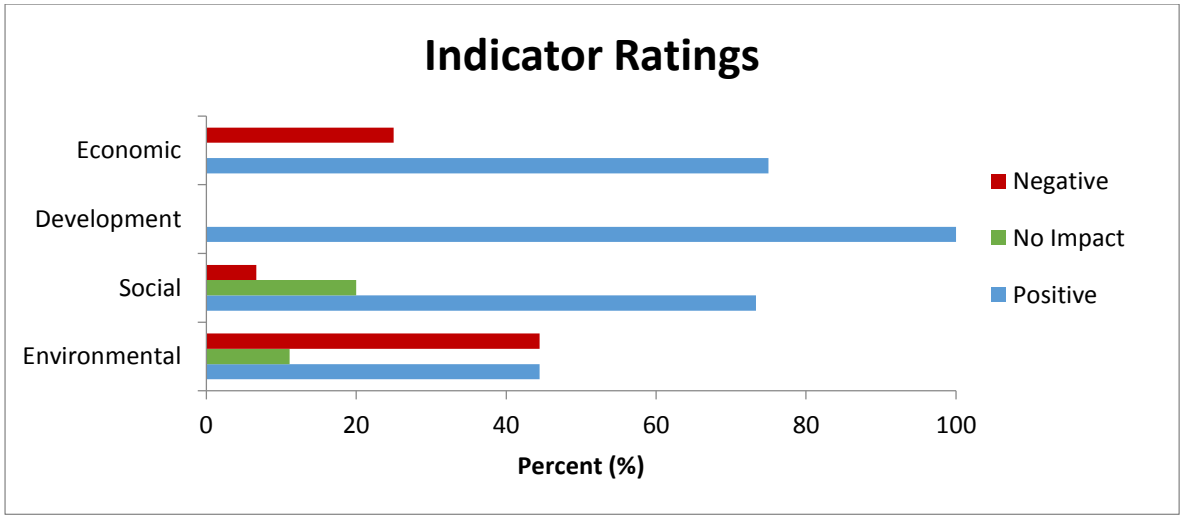

Figure 11: The percentage of indicators which were positive, neutral (no impact), or negative for each category. A one sample t-test was used to test for a difference in mean between the individual indicators and the hypothesised mean (neutral).

Ísafjörður residents felt the cruise industry increased a variety of areas including shops, restaurants, jobs, community spirit and awareness of heritage. They note many concerns about the environment including increased pollution and litter as well as decline in the quality of the natural environment, peace and quiet. The beauty of the community as well as clean air and water were cited as beneficial environmental impacts. Residents felt the cruise ships enhanced all eleven aspects community life from awareness of heritage to participation in local government. The cruise industry has not yet led to uncontrolled development and has had a positive influence on the variety of shopping, entertainment and restaurants. Residents also thought cruise tourism has a positive effect on the local economy by resulting in increased local tax, personal income, value of property, locally owned businesses and number of jobs. Although residents do not find the number of people a source of crowding and congestion, they still believe it has an effect on their ability to conduct everyday business and fair prices for goods and services. Ísafjörður is relatively free from the community problems listed and cruise tourism is not perceived to create or exacerbate community problems. With the exception of noise, none have a perceived impact.

Table 9: Categorization of indicators based on impact on the community. Indicators were analyzed using a single sample t-test against a value of 3 (neutral). See appendix for table of values and standard deviation.

	Positive	**No Impact**	**Negative**
Environmental	The beauty of my community Amount of open space Amount of uncontrolled development Clean air and water	Amount of wildlife	Amount of pollution Amount of litter Peace and quiet Quality of the natural environment
Socio-Cultural	Resident participation in local government My personal life quality Community spirit Participation in local culture An understanding of different cultures Friendships and social relationships among residents Chance to meet new people Number of people Awareness of cultural heritage Ability to use recreation areas Quality public transportation	Amount of car traffic Crowding and congestion Safety from crime	Amount of noise heard
Economic	Number of jobs for residents Businesses owned by residents The value of my house and/or land Personal income Amount of local tax Number of jobs for foreigners		Fair prices for goods and services Ability to conduct everyday business
Development	Preservation of historical buildings Bicycle/Walking paths Amount of new buildings Variety of restaurants Variety of entertainment Variety of shopping facilities		

The indicators were used to create multi-item means for each of the four categories (Economic, Development, Environmental, and Social). These means were compared across the predictor variables and between each other within each predictor variable. Residents are equally concerned about the environment and it is consistently rated as having the most negative impact. Development significantly differed between the villages in the municipality, with the villages most involved in cruise tourism having an increasingly more favorable view. The other indicator categories did not differ between the villages, nor did any indicator categories differ when compared to neighborhood residence in Ísafjörður. Neither place attachment nor resident status had an effect on the indicator categories. The amount of contact

with cruise ship passengers significantly affected the social, development and economic categories. These same categories were also affected by income from tourism. Individuals who have more contact also perceived more positive impacts from the cruise industry. Those who gained more income from tourism expressed more positive attitudes toward cruise ship impacts. This was not the case for the environment, in which all residents shared a common, higher level of concern.

*Table 10: Differences in impact perceptions based on indicator means and predictor variables. One-way ANOVAs run based on means. Significance <0.05**

	MEANS						
Tow	**Ísafjörður**	**Suðureyri**	**Flateyri**	**Þingeyri**	**Hnífsdalur**	**F-Statistic**	**p-value**
Environment	2.817	2.944	2.869	2.676	2.388	0.8953	0.4848
Social	2.439	2.705	2.539	2.254	2.429	1.7064	0.1336
Development	2.048	2.417	2.269	1.891	2.183	3.6248	0.00352*
Economic	2.510	2.697	2.474	2.247	2.333	1.1967	0.3113
Ísafjörðu Distri	**Uptown**	**Center**	**Fjord**			**F-Statistic**	**p-value**
Environment	2.831	2.923	2.778			0.8664	0.4595
Social	2.573	2.506	2.517			0.2094	0.8898
Development	2.350	2.238	2.284			0.6069	0.6113
Economic	2.577	2.423	2.474			1.3098	0.2725
Plac Attachmer	**All my life**	**As a child**	**10+ Years**	**20+ Years**	**Immigrated**	**F-Statistic**	**p-value**
Environment	2.764	3.021	2.801	2.901	2.893	0.8467	0.5494
Social	2.528	2.668	2.471	2.525	2.514	0.367	0.921
Development	2.290	2.433	2.158	2.236	2.284	0.7852	0.6002
Economic	2.449	2.473	2.396	2.484	2.481	0.2391	0.9753
Residenc	**Year Round**	**Seasonal**				**F-Statistic**	**p-value**
Environment	2.825	2.927				0.3243	0.5695
Social	2.535	2.667				1.037	0.3095
Development	2.263	2.518				2.4708	0.1173
Economic	2.474	2.509				0.0883	0.7666
Incom	**None**	**Indirect**	**Direct**			**F-Statistic**	**p-value**
Environment	2.858	2.869	2.860			4e-04	0.9847
Social	2.599	2.497	2.403			6.3657	0.01225*
Development	2.353	2.218	2.114			6.1058	0.01415*
Economic	2.567	2.434	2.209			23.211	2.49e-06*
Conta	**None**	**A little**	**Moderate**	**Large Amount**		**F-Statistic**	**p-value**
Environment	2.875	2.878	2.792	2.836		0.4083	0.5234
Social	2.649	2.540	2.416	2.348		8.4796	0.003912*
Development	2.363	2.280	2.202	2.024		4.1817	0.04193*
Economic	2.569	2.486	2.393	2.045		13.935	0.000234*

4.1.4 Indexes

For comparative purposes, indexes were created by combining multiple responses into a single numerical score. This composite score delivers a broader view and can capture the level, direction, and intensity of the resident responses or observations (Neuman & Neuman 2008). Growth and favorability are multidimensional concepts so they must be viewed as composite measures as opposed to individual components. Single data items cannot ensure very low to very high, while an index can (Babbie 2001).

In order to be included, the respondent must have answered all the questions, or they were dropped from analysis. The first index looks at how favorably the residents view the cruise industry, based on perceived benefit, desired role in the economy and affect on daily life. The second index captures how the respondent views the growth of cruise tourism, using importance of new tourism facilities, ability of community to handle more passengers, view on growth rate, and the desired role in the economy. The aim was to see, with a wider lens and finer scale, whether the index values for favorability and growth varied across the predictor variables.

Cruise ship favorability index:

= Town Benefit + Community Benefit + Personal Benefit + Role in Economy - Cruise Ship Affect

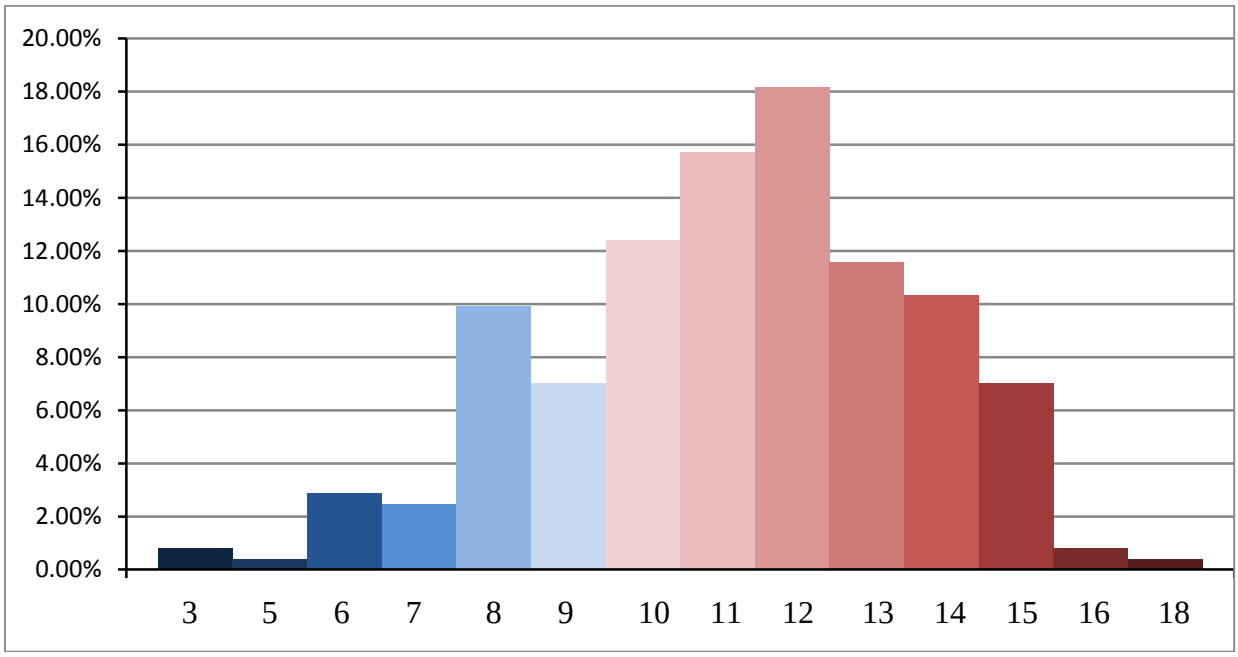

Figure 12: Frequency distribution of the favorability index based on the answers to 5 direct questions about cruise ship tourism. The middle point is 9: favorable is indicated by red and unfavorable is indicated by blue.

In general, nearly all residents fell in the middle of the spectrum. The favorability index shows most residents are supportive of the industry. More than 76% have a score that is above the mid-point. The mean is 2.14 points above the mid-point, which is 11.89% above neutral. The most negative two values were not achieved; however, the highest score was attained in the sample.

Table 11: The values collected for the growth index range from 3 to 18, on a scale of 1 to 18. The top 50% is the sum of respondents who scored 10 to 18 and bottom 50% is the sum of 1 to 9. The middle 55% is a sum of 5 to14 and the top and bottom 22.5% are the sums of 5 to14 and the top and bottom 22.5% are the sums of 15 to 18 and 1 to 4, respectively.

Max	18 (most supportive)	Top 22.5%	8.26%
Min	1 (least supportive)	Top 50%	76.45%
Mean	11.14	Middle 55%	90.91%
Median	11	Bottom 50%	23.55%
Mode	12	Bottom 21.5%	0.83%
Range	3-18	N	243

Tourism growth index:

= Tourism Facilities + Handle Visitors + Cruise Ship Growth Rate + Role in Economy

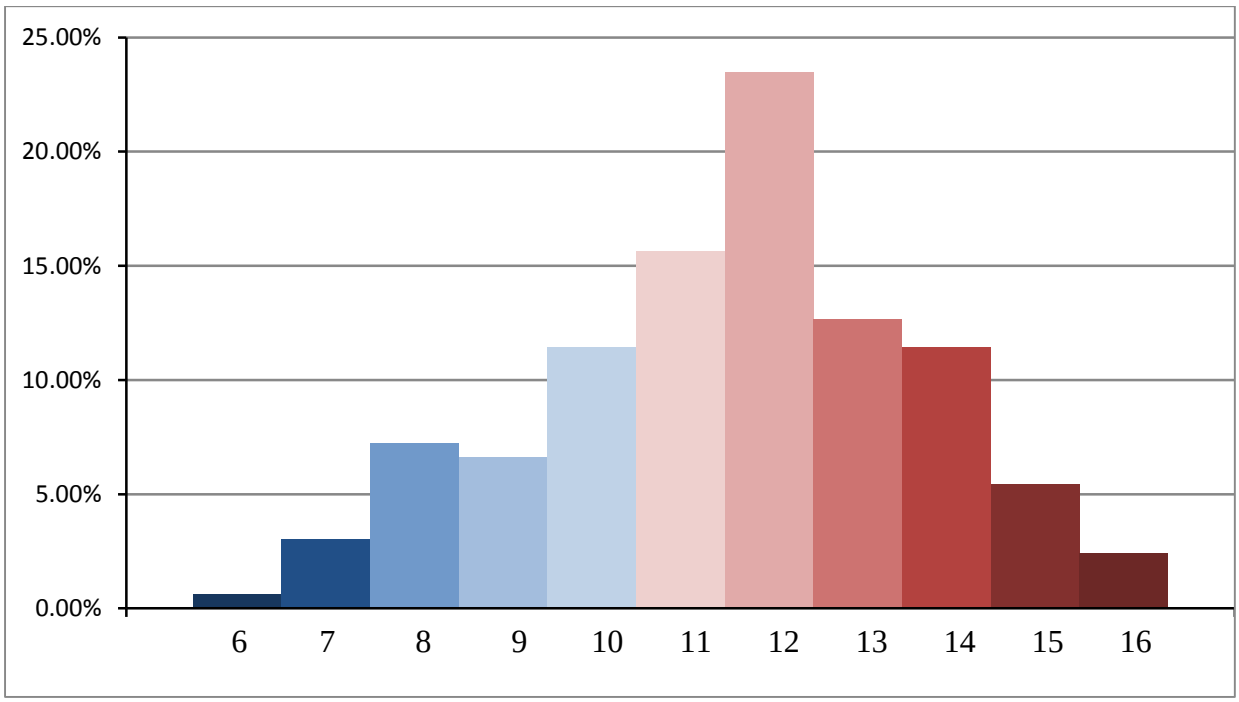

Figure 13: Frequency distribution of the growth index based on the answers to 4 questions about development and community capacity. The middle point is 10: favorable is indicated by red and unfavorable is indicated by blue.

The tourism growth index could only be completed by Ísafjörður residents and shows they generally welcome growth of the cruise industry. This index is centered around the middle, but more values fall on the supportive side of neutral. The mean is 1.55 above the mid-point or 9.69% above. The town is not saturated and many see it as a good option for economic development.

Table 12: The favorability index values range is from 6-16. The top 50% is the sum of 11-18 and bottom 50% is the sum of 3-10. The middle 50% is a sum of 7-14 and the top and bottom 25% are the sums of 15-18 and 3-6, respectively.

Max	18 (most supportive)	Top 25%	7.83%
Min	3 (least supportive)	Top 50%	71.08%
Mean	11.55	Middle 50%	91.57%
Median	12	Bottom 50%	28.92%
Mode	12	Bottom 25%	0.60%
Range	6-16	N	166

Residents are generally positive about the cruise industry and its growth, however, the level of support varies across resident groups. The index analysis was conducted by running one-way ANOVAs. The first variable, where residents live in the municipality, did not affect their view of the industry. A related variable, neighborhood or district, also did not significantly differ in either index. The measures of residency and place attachment did not significantly affect the indexes. The next variable tested whether those with income from tourism were more favorable towards cruise tourism or expressed more positive attitudes toward growth. Individuals who receive greater economic benefit from the industry perceive greater benefits and rate the industry more favorably, but do not differ in their views of growth. The final variable examined the amount of contact and found that those with greater amounts of contact view the industry favorably but not growth. Interviews of individuals with direct roles in the cruise industry and tourism confirmed this finding. They viewed the industry favorably but firmly stated their belief that the growth of the cruise industry had reached a limit.

Table 13: Differences in attitude based on index and predictor variables. One-way ANOVAs run based on means

	MEANS						
Tow	**Ísafjörður**	**Suðureyri**	**Flateyri**	**Þingeyri**	**Hnífsdalur**	**F-Statistic**	**p-value**
Growth	-	-	-	-	-	-	-
Favorability	11.05	11.64	11.00	10.83	11.44	0.6491	0.6624
Ísafjörður Distri	**Uptown**	**Center**	**Fjord**			**F-Statistic**	**p-value**
Growth	11.50	11.47	11.92			0.3471	0.7913
Favorability	10.92	11.06	11.59			0.2813	0.8389
Place Attachmer	**All my life**	**As a child**	**10+ Years**	**20+ Years**	**Immigrated**	**F-Statistic**	**p-value**
Growth	11.67	10.30	11.36	11.85	10.88	0.738	0.64
Favorability	10.87	11.26	11.32	11.15	10.92	0.3373	0.9364
Residenc	**Year Round**	**Seasonal**				**F-Statistic**	**p-value**
Growth	11.49	11.38				0.7016	0.4968
Favorability	10.55	11.71				2.1423	0.1207
Incom	**Direct**	**Indirect**	**None**			**F-Statistic**	**p-value**
Growth	12.04	11.69	11.39			1.6516	0.2006
Favorability	12.73	11.75	10.31			37.068	4.49e-09*
Conta	**None**	**A little**	**Moderate**	**Large Amount**		**F-Statistic**	**p-value**
Growth	11.49	11.35	11.79	13.00		2.4752	0.1176
Favorability	10.32	10.95	11.68	14.00		21.528	5.74e-06*

4.2 Infrastructure & Services

Diverse natural and cultural assets of the area are vital to the popularity of a destination. A variety of opportunities is important as tourists seek a range of different activities and have different capability levels. Ísafjörður offers many natural opportunities from the Hornstrandir Nature Reserve to kayaking as well as many cultural opportunities. Cruise ships schedules tend to permit ten to twelve hours on land, and sites must be accessible within 8 hours round trip journey. The trips from Ísafjörður are generally 2-3 hours and run two to three times daily. It would be possible to create and offer excursions that are 6-8 hours in length.

Tours are offered through West Tours in association with Iceland Travel and Atlantik who market directly to the cruise lines. According to Katrín Líney Jónsdóttir of West Tours, there are six standard trips that are offered, in addition to kayaking and sea angling. The boat trips are to Vigur Island and Hesteyri on the Hornstrandir peninsula. The bus trips are called Life & Culture (Bolungarvík and Ísafjörður), Flowers & Fjords (Nuper and Flateyri), Mountains & Villages (Bolungarvík and Flateyri) and Foxes & Churches (Suðavík). Some cruise lines offer walking or bicycle tours, around Ísafjörður and to the Troll Seat. All guides are knowledgeable and are required live in the local area, but some are not professionally

trained (Katrín Líney Jónsdóttir). Tours are offered in English, French, Italian, Spanish, German and Russian, but the availability of guides differs.

Table 14: The attractions, activities and assets of Ísafjörður and the surrounding areas. Sites within 3-4 hour trip and, Sites within 6-8 hour trip. (for excursions or in general, because passengers rent cars, do activities on their own!)

Nature	Unutilized	Under Utilized	Utilized	Over Utilized
Vigur				X
Hornstrandir				X
Dynjandi	X			
Tungardalur			X	
Heritage & Culture	Unutilized	Under Utilized	Utilized	Over Utilized
Maritime & Heritage Museum				X
Edinborg Culture House		X		
Eyrartún Culture House (Library)			X	
Botanical Gardens			X	
Ösvór Museum (Bolungarvík)				X
Nonsense Museum (Flateyri)		X		
Doll Museum (Flateyri)		X		
Hrafnseyri	X			
Arctic Fox Center (Suðavík)		X		
Sports & Recreation	Unutilized	Under Utilized	Utilized	Over Utilized
Swimming Pools		X		
Golf Course	X			
Horseback Riding		X		
Hiking			X	
Ski areas	X			
Kayaking		X		
Sailing	X			

Currently, not all the cultural, heritage, recreation and nature options are fully exploited and some are not utilized at all. However, certain sites are considered to be over exploited, including the fragile habitats of Vigur and Hornstrandir. The Mountains & Villages excursion overlaps with stops on both the Life & Culture and Flowers & Fjords trips. Bus schedules run on rotating 20-30 minute schedules so that two buses are not at the same place because the single lane roads and infrastructure cannot accommodate more. Tungardalur, for example, may receive 12 buses per day, but never more than 60 people at a time. Despite careful planning, an excessive number of buses and passengers would begin to overrun many of the natural and

cultural sites. Cruise destinations can run hundreds of shore excursions and there remain many untapped opportunities in Ísafjörður and the surrounding areas.

Table 15: Equipment available for excursions. The current use of buses is 6, but if 9 are used then the maximum is 1,679. Additionally, there are 4 buses that run regularly scheduled routes to the municipality villages and taxis are available for hire.

Bus	**Passengers**	**Trips per day**
Man Caetano	53	2 (3)
Drögmöller E330H	46	2 (3)
Mercedes - Benz	48	2 (3)
Bova Futura FH 15	68	2 (3)
Scania S 112	37	2 (3)
Mercedes - Benz 0404 Eurostar	48	2 (3)
Tota	300	12 (18)
Boat	**Passengers**	
Ingólfur	30	3
Guðrún Kristjáns	48	3
Bliki	38	3
Tota	116	9
Maximum per day	1,248	21 (27)
Guides	**Number**	**Total Trips per day**
Cruise Ship	21	63
Non-contractual	2	4

The current capacity is adequate for ships of approximately 2500 passengers (Katrín Líney Jónsdóttir, pers. comm. 2 October 2013). The destination is ideal for expedition cruises and medium sized cruise vessels. The Shorex (shore excursion) capacity of Ísafjörður is considered 700-750 passengers by Cruise Shipping Iceland, however this figure is extremely conservative. The current availability is 6 buses and 3 ferries which accommodate 1,248 passengers. Running at maximum capacity (9 buses, 3 ferries) and full schedule (3 trips per day), the capacity increases to 1,679. This extended schedule (7:00-21:00) is only run for larger ships or multiple ships in port. It is technically and physically demanding, therefore does not occur frequently and is not considered a long term solution. Buses, ferries and guides are short term limiting factors as they could be changed through investment, with assurance that there will be continuing need. For smaller ships, 130% of the passengers may take more than a tour per visiting day (before and after lunch tours) and for some ships only 30% take excursions. The average number of passengers taking a tour is 38% (Katrín Líney Jónsdóttir, pers. comm. 2 October 2013). Cruise lines do not make any money from passengers walking around town and may soon demand a larger excursion capacity.

For the cruise tourist that does not seek a shore excursion, Ísafjörður has much to offer. Visitors will find a variety of local handicraft, activities, art and a unique local atmosphere. Rental cars and bicycles are available on shore as well as privately booked trips, such as the rib-boat whale watching. It is often said that Ísafjörður has everything you need and nothing more. With its small size, Ísafjörður is well suited for exploration on foot, but it has a surprisingly big-town ambiance. The town has a good selection of cafés, restaurants and shops offering original gifts and souvenirs.

Port facilities are important for a destination to attract cruise lines. The harbor can be separated into two parts. The main docks are Sundabakki and Ásgeirsbakki. Sundahöfn has floating docks for small fishing boats and passenger boats in the summer. The other facilities adjacent to Ásgeirsbakki, in the Pollurinn, are for a number of recreational boats such as sailboats. Entrance of the harbor channel is somewhat problematic due to congestion and the limited depth at Suðurtanga. In 2012 and 2013, 81% and 59% of boats came to the dock while the remaining anchored in Skutlusfjörður. Passengers were ferried to pontoon docks on small tender boats.

Table 16: Facilities and services offered by the Port of Ísafjörður.

Port Facilities	Available	Who?	
Docks	Yes - 3	Port authority	
	Length	*Depth*	*Max ship size*
Ásgeirsbakki	270m	10m	150m
Sundabakki	190m	7.8m	250m
Sundabakki	120m	7m	120m
Anchorage	Yes	Port authority	
Tender Docks (Pontoon)	Yes – 2	Port authority	
Pilot*	Yes – 2	Port authority	
Tugboats	Available	Port authority	
Customs	Yes – when arrival from outside Schengen Area	Directorate of Customs	
Bunker (Fuel)	Available	By truck	
Shore Power	No	-	
Provisioning	Available	TGV Zimsen, Samskip, Gára, Eimskip	
Food	Yes	Port agent (sometimes locally sourced)	
Water	Yes	Port authority (40 meters per ton per hour)	
Waste Disposal	Yes	Gámaþjónusta Vestfjarða	

*Pilot is compulsory for foreign vessels.

Location relative to other destinations and ports is important for itinerary planning. Ísafjörður is centrally located between Reykjavík (181nm) and Akureyri (170nm). At an average cruising speed of 20 knots, Ísafjörður is an overnight journey from these ports. The port has little ability to choose how, when and whether cruise ships visit as the timing of arrival depends on sailing time from the last port and departure from the home port. However, Ísafjörður is ideally situated to attract cruise ships and actively markets to be included on trip itineraries.

4.3 Socio-Economic Impact

This assessment will focus on socio-economic conditions of stakeholders including individuals, groups, and communities. A cost benefit analysis for hosting cruise ships is difficult with the data and information collected during this study. Economic benefits include tourist spending, port revenue, taxes, docking fees, passenger fees or head taxes and waste management fees. Costs can include waste management, traffic congestion, noise, road repairs, atmospheric emissions and public subsidies. The values for benefits are generally available; however, the costs are difficult to calculate in Ísafjörður.

Cruise ship tourism generates primarily direct effects. For the years 2012 and 2013, the harbor profit from cruise ships was ISK 32,664,018 and ISK 37,739,199. In the survey, 22.3% of residents indicated indirect income from tourism and 18% reported direct income from tourism. In Ísafjörður, there is only one tour operator, West Tours, which offers excursions to passengers. This company employs 3 full-time employees and 24 part-time summer guides or staff. West Tours is a cooperative of nearly all the tour operators in the Westfjords and 60% of the sales revenue are generated through cruise shore excursions (Guðmundur Helgasson pers. comm., 4 October 2013). For excursions alone the profit was nearly ISK120,000,000 last year (based on number of passengers, the price per passenger and the figure that 38% of passengers attend an excursion). Indirect effects incur as West Tours must then pay the guides, staff, drivers, bus company, museums and others. There have been no studies or analysis of passenger spending, but figures have been compiled by local business owners.

The general thought in town is that passengers spend minimal money on-shore, rarely purchasing meals or drinks and taking photographs of postcards instead of buying them (pers. comm.). The graph below shows six weeks sales from the summer of 2012 divided by day. The graph is set up so that on the day with the most profit is reported as 100% sales, so the other

days are assigned a percentage of the maximum. Fourteen cruise ships came to Ísafjörður during this period, ranging in size from 300 passengers up to over 3000 passengers. Not indicated on the graph are tournaments and festivals held in Ísafjörður, which often have more impact than a small cruise ship. Total sales the days that no ship is in port is 29% of the best day, but when cruise ships are in port that figure rises to 42%**.** For this store, 13ISK more in profit per 100ISK is reported when a cruise ship is in port. Of the ten highest selling days this summer ships were in port six times and of the twenty days of the summer during which the least was sold, there were only four vessels.

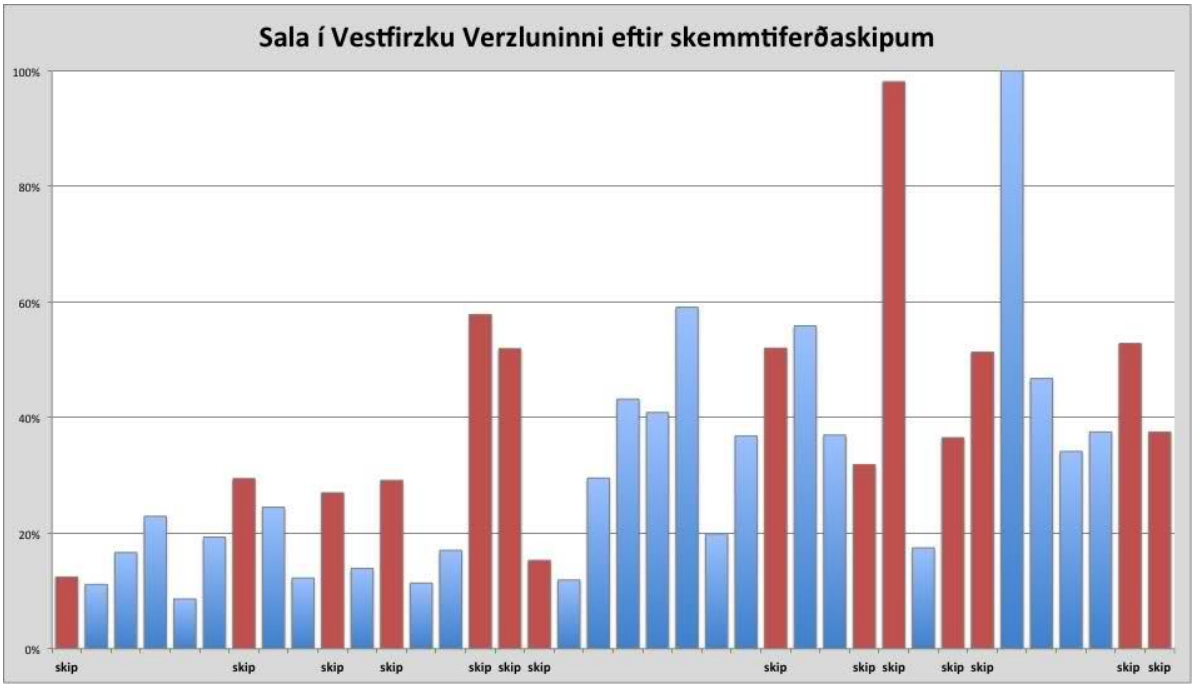

Figure 14: Sales figure for the Westfjords Shop. Created by Eyþór Jóvinsson.

Cruise ships leave a large amount of money in the community, but it is also widely known that the cruise lines take a large profit. A recent news article highlighted the small percentage of passenger fees that remain in the community, with a large portion going to the cruise ship companies and intermediaries. Tours that normally cost 8,100ISK are sold at a discount to the cruise lines who sell these same tours for over 30,000ISK onboard (Oddbjörnsdóttir, 2013). Guðrún Kristjánsdóttir (Kiddý) from Sjóferðum Hafsteins og Kiddýar in Ísafjörður, boat operators, estimate the fees are divided in three parts: one to the local travel agent, one part to the partners in Reykjavík and one to the cruise agents. On many days, the tours are booked fully at a discount rate and the full price paid by land-based visitors (by air, boat or car) is a foregone profit.

Cruise ships also cause municipality expenditures, including tourism information guides, printed maps, toilets, garbage collection and other facility maintenance. The library/culture house, information services, and facilities/grounds management do not receive additional funds to compensate for more use. Funds that would go toward other projects are shuffled to facilitate and serve cruise ships. The harbor administration spends approximately 1.5 million ISK or the revenue of one large ship for marketing purposes each year. It is impossible to calculate the environmental costs.

The natural sites also have economic importance; in terms of both use and non-use value, but it can be difficult to measure non-use and existence values. The value of such an attraction, if it is free at the point of entry, will not create profit for the local community and instead will be captured by the tourists (as consumer surplus) and cruise lines (Brown et al. 1997). This has been mitigated in Ísafjörður through the site fees paid by tour operators; however, many of the sites are experiencing over-use and wear. Kátrin Líney Jónsdóttir comments, "370 people on Vigur in one day is too much. The place cannot bear more than that. It is a small island, it is too much." (pers. comm. 2 October 2013). This degradation of the natural environment cannot be monetarily assessed.

Overall, Ísafjarðarbær economically benefits from cruise ships, but most of these benefits are centralized in the harbor authority and Ísafjörður businesses. Some of the money is distributed throughout the community as indirect and induced effects. The municipality spends almost no additional money on cruise ships, thus the losses are in forgone projects and services. If this continues, both residents and longer-staying tourists will suffer the consequences. It is also worrisome, that costs cannot be calculated – especially to the environment and nature which is the basis of the tourism industry.

5. Discussion

If methods for predicting critical thresholds of development are not applied, tourism managers and decision makers are likely to continue to blindly promote tourism as long as some benefits are realized (Dedrich et al. 2008). Carrying capacity is multi-dimensional, and it can be complex to measure in a dynamic tourism setting, therefore it is rarely predicted and usually only identified after it has been exceeded (Dedrich et al. 2008). Moving away from the identification of limits and specific numbers, this study aims to establish "desired conditions". Using indicators, this research has determined the stage of development and set a baseline against which change can be measured.

The initial objective of the municipality was to increase the use of the under-trafficked port facilities to increase revenue and pay for prior investment. Cruise ships were encouraged to dock in Ísafjörður to stimulate development and economic activity; however some industries and businesses have become dependent on them. Benefits to the community have been accruing in the development, social and economic areas. Tourists come to Ísafjarðarbær in seek of nature because, "Ísafjörður is still a little bit raw – not so polluted yet. A little bit closer to the nature," yet the environment is the area of most concern for all residents (Kári Þór Jóhannsson, pers. comm. 5 September 2014). Overall, twenty-seven of the indicators were positive, three neutral and seven negative. Ísafjörður residents find the image of the community very important for both cultural and natural resources. Locals are eager to share their town and they want the town to be viewed positively. The Library Director, Jóna Simona, states "I am very happy about these cruise ships. I am glad that they come here and I would like to show them so much, be proud of the town and for them to remember." (pers. comm. 13 September 2013). The indexes also show the community has a favorable view of the cruise industry and are supportive of its further growth.

5.1 Theoretical Justification

The TALC model is a point of convergence for sustainability, carrying capacity and associated indicators (Dedrich et al. 2008). The TALC curve parallels two host community perception models: Irritation Index (Doxey 1975) and Tourism Continuum (Ap & Crompton 1993). Cost and benefit curves also follow a continuous path and when they share the same axes, they can be over-layed onto the TALC model. When combined, these measures provide a robust analysis to predict the level of development in Ísafjörður.

TALC, Irritation Index, Tourism Continuum (Refer to Figure 15):

1. Exploration/Involvement, Embrace, Euphoric;
2. Development, Tolerant, Apathetic;
3. Consolidation, Adjustment, Annoyance;
4. Stagnation, Withdrawal, Antagonism;
5. Decline or Rejuvenation.

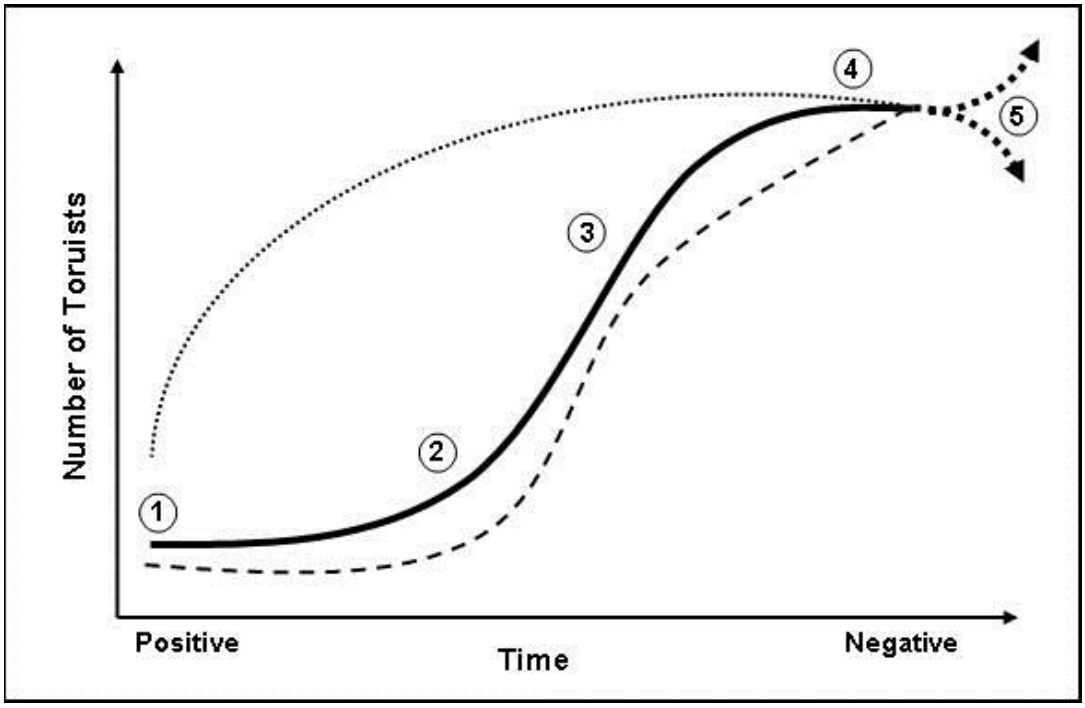

Figure 15: The TALC over-layed with the Irritation Index (Doxey 1975) and Tourism Continuum (Ap & Crompton 1993) measures of resident attitude.. Solid line indicates TALC curve, dotted line is benefits and dashed line is costs curve. Stages: see above.

TALC

Cruise companies favor new port facilities, with amenities and infrastructure customized specifically for cruise ships, however, ports can become involved through adaptation of existing facilities. Least cost solutions may involve tendering to existing municipal docks (Belize City, Cabo San Lucas), use or minor adaptation of existing cargo docks (e.g. Puerto Limon Costa Rica, Port of Spain Trinidad, Puerto Madryn Argentina) (Manning 2006). These solutions have allowed Ísafjörður initial entry into the cruise ship market with reduced initial expenditures. Tender docks are not seen as a good or permanent solution as poor weather (particularly wind) can prevent tendering (Manning 2006). Some older passengers may remain

onboard to avoid the trouble and it shortens the day as passengers have to line up to return to the ship. As the destination becomes more popular, pressure to renovate or create new cruise docks is likely to hasten. The harbor administration is awaiting funding to dredge the harbor and move cruise facilities to Ásgeirsbakki. This would allow cruise specific facilities and better connection to the town center. Ísafjörður is established in the cruise market and is moving beyond early development (past stage 2 in the TALC, Figure 14). However, without the subsidy to implement the dredging project, infrastructure development will slow, but services will continue to evolve.

Resident Attitude

Based on the written responses at the end of the survey and interview statements, the attitude of the residents also indicates a level of 2-3 on the Irritation Index and Tourism Continuum. A small, but measurable majority of residents believe that the community cannot handle any more passengers, which indicates the current capacity is nearly reached. However, they do not believe growth has proceeded too quickly and through continued development this capacity can be stretched. Although some residents still seem euphoric and others annoyed, the majority of the surveyed and interviewed locals are apathetic and tolerant. The majority of the indicators were given a neutral score of 3 or averaged to approximately 3. It can be said that residents are beyond euphoric as some indicators were scored negatively and not yet annoyed because many benefits are still perceived.

Cost-Benefit

The cost-benefit curves are also in accordance with the development stage of tourism development. The benefits far outweigh the costs for economic, development and social indicators. The environmental impacts are inconclusive – with half scoring positive and half negative. However, when directly asked, most interviewees could not see any negative impacts. Residents indicate the benefits have been accumulating over the years and the current point may be the greatest difference between benefits and costs, which is driving cruise tourism through the development stage.

5.2 Carrying Capacity

Carrying capacity can be measured based on physical, social and environmental thresholds. The interviewees, drawn from multiple sectors, indicate an appropriate size ship for the town is 2500 passengers. Based on current services and attractions, this number is reasonable, but is below the physical and social thresholds.

Physical

The current harbor capacity is 5 ships per day (3 dock, 2 anchor). Two of the docks are suitable for small boats only and are typically reserved for fishing and cargo. The maximum of excursions offered per day is 1,679 excursions. This schedule seriously stresses infrastructure and the capability of the service providers. It is most reasonable to consider 1,250 excursions as the maximum. An average of 38% of passengers go on excursions, and at this rate could comfortably serve ships with up to 3200 total passengers. The capacity exists to serve ships up to 4400 total passengers, but currently this is an unsustainable option. The worldwide trend is 50-80% of passengers buy an excursion in port (Klein 2010, p.68) and Ísafjörður is far below this average. The roads, sites and infrastructure cannot support nine buses running three trips per day. Excursions are considered the limiting factor, although it can be easily changed through investment and product development.

Social

The increasing size of the ships is an important consideration. Not only does it affect whether ships dock or tender, it also affects the town atmosphere and services providers. Even though the population of Ísafjörður can double due to a cruise ship, the town is able to absorb large numbers of passengers. Hundreds are immediately taken away from the dockside on bus tours and distributed around the region. Ísafjörður residents are largely unaware of the number of passengers arriving by cruise ship each year and this survey suggests social carrying capacity has not yet been reached.

With the exception of contact and income, Ísafjarðarbær is homogenous across the predictor variables, and the different sections of society share similar attitudes toward cruise tourism. Thus the Irridex and tourism continnum can be applied. Models of resident attitude predict that social carrying capacity is reached at the fourth stage. This final stage, called

antagonism or withdrawal, is when the area has grown into a mass tourist destination and the community no longer welcomes tourists.

In Ísafjörður the first stage of euphoria has been passed by the majority of residents. Cruise ship visitation has increased and development and marketing have taken hold. Residents are both tolerant and apathetic, a stage which is described by moderate acceptance as ships are seen as simply a part of daily life. Some members of the community have taken commercial advantage of the growing tourism, while others criticize the changes in their community. At this point the novelty and enthusiasm has worn off. Nineteen percent of the indicators were perceived to have negative impacts, including the ability to conduct everyday business. Residents are just starting to adjust, absorbing these costs and inconveniences connected to cruise tourism impacts and may change their routines to avoid interaction with passengers. Ísafjörður is on the path to the fourth point, where residents go out of their way to avoid tourists and disengage from the industry. Then tourism is resented and locals leave the area during peak season. It is difficult to predict this social capacity and is often not realized until it is surpassed. However, if a strong unified identity is felt by the community, it is better able to determine what types and levels of tourism it wishes to host and the upper threshold will not be exceeded.

Environmental/Ecological

Landscape and ecological tourism sites are often open access, thus congestion can occur where each additional user reduces the welfare of the other users. This is the point when the biophysical carrying capacity has been reached. When it comes to the natural environment, science often is lacking or incomplete and the status and limits of nature are unknown. In Ísafjörður, residents are concerned about the natural environment and see the most negative impact in this area. They may lack data and are taking the precautionary principal. As in previous studies (Ready & Bishop 1991), this lack of information has led society to follow the safe minimum standard. Several natural sites (Vigur and Hesteyri) are considered to be at or above the ecological limit and passengers are contributing to degradation of the environment.

5.3 Predictor Variables

While this study is the first of its kind for cruise ships, several of the results support previous research on resident attitude toward tourism, although others differ. At this point of development, residents feel the cruise industry enhances the social aspects of the community.

The cruise industry is also viewed as beneficial for the local economy and development. While there are some environmental benefits, significant concerns exist with respect to litter, pollution, peace, noise and the overall quality of the natural environment.

Social exchange theory states that people evaluate an exchange (material, social or psychological) based on the costs and benefits incurred as a result of the exchange. A person who perceives benefit will rate it positively, while one who perceives costs will rate it negatively. In the tourism context, social exchange theory postulates that an individual's attitude toward the industry, and subsequent level of support for its development, will be influenced by his or her evaluation of the resulting outcomes in the community (Andereck et al. 2005). This could explain the finding that although 60% disagree that they receive personal benefit, the community is supportive of the cruise industry. The finding that those with more income and contact with tourists score higher in the indexes and rate the indicators more positively, suggests social exchange theory may be supported. Ísafjörður is consistent with prior research which has concluded that people with higher levels of dependence or employment in tourism have more positive attitudes (Andereck et al. 2005). For example, Jurowski et al. (1997) and Lankford & Howard (1994) found a relationship between positive attitudes and people employed in tourism, while Brougham & Butler (1981) found an association between amount of contact and positive attitude. There is no correlation between income and personal benefit which suggests there is difference in perception of tourism's positive impact with respect to economic (receiving of income) and other variables.

However, when it comes to the environment and growth of the cruise industry, residents with more income and contact did not differ from the rest of the community. The high concern about the natural environment is indiscriminate based on resident type. And those with experience in tourism and contact with passengers are more aware of the limits to services and infrastructure. Thus, they rate the cruise industry more favorably but are not more supportive of its growth. The finding that higher levels of contact associate to a more positive attitude indicates the nature of the interactions between residents and passengers have been constructive. Cultural insensitivity is a reported problem in the Arctic and the recently arriving large vessels are without guides and education (Klein 2010). Poor encounters with passengers would be more negative than those with no contact, but this is not evident in Ísafjörður as higher contact leads to a more favorable rating.

Contrary to other findings, residence (Ahn et al. 2002, reviewed in Harrill 2005) and community attachment (Lankford & Howard 1994, Broughham & Butler 1981,) were not associated with tourism attitudes. Based on the size, distance, and location, it is assumed that the closer a resident lives to concentrations of tourism, the more negative tourism is perceived (Harrill 2005). However, this study has found that the district or village of residence does affect the amount of contact but this does not translate to significant differences in favorability or indicator scores. The previous studies on community attachment have found that residents born or residing in an area for a long time were less favorable toward tourism. This measure is based on year-round residence, living as a child, immigration and length of residence may not encompass all the variables of place attachment. Alternatively, in the face of economic decline, strongly rooted residents are concerned with the vitality of the community and see cruise ships as a future source of economic growth and jobs. Several positive indicators (number of jobs, amount of local tax, personal income, businesses owned by residents) give strength to this case.

Andereck et al. (2005) suggest the negative impacts of tourism are more direct and obvious to all residents, while the positive impacts are more noticeable to those involved in and informed about tourism. In Ísafjarðarbær, residents are more cognizant of positive impacts and are less concerned with negative impacts. Residents who are informed of positive impacts are more likely to maintain engagement with the industry and welcome passengers.

Figure 16 Pollution and quality of the natural environment are of high concern for Ísafjarðarbær residents. There is no connection for shore power and ship engines are often seen spewing smoke. Restrictions on dumping, paints and discharge are not in place, so the impact on the environment is unchecked and unknown. Encounters such as this are rare as cargo companies are asked to delay or expedite their ships for the reasons of safety and space. Interviewees say cruise passengers affect the efficiency of their work so conflict is avoided and they also indicate there is no conflict with fishing vessels.

Figure 17: A multiple cruise ship day. Passengers wait in line for tender boats, while others relax, board a bus or wander the streets. Number of people, crowding and congestion are all rated positively. People in town like the excitement and liveliness, but peace and quiet are negatively impacted. Photograph from Kári Jóhannsson

Figure 18: Cruise ship passengers and crew connecting to free WiFi sources outside businesses and offices. Infrastructure, such as public internet and toilets are often cited as lacking. Picture from Dagný Arnarsdóttir

Figure 19: Passengers are handed an illustrated map of Ísafjörður upon arrival and the town is viewed by tourists as "a doll town" or amusement park. Ísafjörður is an authentic town built on fishing and many residents are worried about commercialization. Shops and cafes aimed at summer tourists and cruise ship day-trippers are taking hold in town. Passengers leave behind an impact after they go back to the ship and litter is one of the major negative impacts of cruise tourism. Photograph from Thelma Ósk Bjarnadóttir

5.4 Management and Mitigation Strategies

5.4.1 Mitigation & Investment

Based on the findings of this research, certain actions must take place right away to reverse negative impacts and ensure the satisfaction of passengers, cruise lines and local people. The cruise industry is a service industry, so Ísafjörður must be prepared with the best services and facilities. If the cruise lines or residents become dissatisfied, it is difficult to reverse opinion. "It is a fight and people don't realize that all the time, between us and other harbors in Iceland," says Áslaug Alfredsdóttir, manager of Hotel Ísafjörður. Part of the appeal of the town is that it is a working fishing port. It is ideal that it should be functional and therefore authentic; however, slight modifications would ensure the safety of the passengers and the ability of workers to do their jobs. Minor modifications would greatly improve the experience of the visitor and should be implemented as soon as possible. The following recommendations will insure Ísafjörður is up to date with other Icelandic and regional ports (recommendations based on Cruise Norway standards). In certain areas, the change in Ísafjörður is unacceptable and mitigation should occur.

Port Facilities:

- No separate cargo/container loading/unloading when cruise ships are in port. (Harbormaster says there are no "conflicts", however cargo ships are asked to delay or change arrival) – this is optional but should be mandatory.
- Clean well maintained port area – the port is primarily a working area and looks as such. It should, however, be clean and free from dangers for walking passengers.
- Well organized rest area with information signs showing where passengers can leave the port area (buffer zone, designated walkways to alleviate conflict with dock workers)
- Increased number of public toilets (and overview on maps)
- Bus parking – clear loading and unloading area (away from the work operations on the dock)

Information

- Signage about taxi and bus locations
- Tourist information sign & map – Notice board with city map or other information about activities/events – at least in English, German, French (you are here point)
- Signs showing direction to/from port – so as to avoid congestion and interference.

Infrastructural limits can be changed by investment. Minor modifications are rather inexpensive and can be financed through port fees and taxes, but large projects can result in overdevelopment and lost investment. The City of Mobile, AL is US$29 million in debt because the city invested in building a new cruise terminal and after a few years Carnival decided to leave the port. Campbell River, Canada made a CA$14 million investment in docks and a cruise terminal, however ocean currents made it difficult for large ships to enter the harbor and it was relatively unused (Klein 2010, p69). Destinations need to consider whether they have sufficient assurance that the port or attraction will continue to attract visitors over a period long enough to justify the investment. The large scale dredging and subsequent terminal project in Ísafjörður should be carefully considered so that it is not a loss of investment.

5.4.2 Management & Policy

Compared to destinations around the world, Iceland is still in early development and in the future, it is likely that Iceland will have a larger percentage of the global cruise market. As the ships are predicted to be larger, the town may become more and more irritated by the presence of cruise ships. In order to stay within the limitations, needs, values and assets of the community, a local action plan or development plan should be drafted. This would ensure the local government and community dictate the pace, intensity and direction of growth, rather than the cruise industry. These can use a variety of tools and strategies to ensure sustainable cruise tourism, including strategic planning the physical design, scale, and location of development as well as services and social projects.

Management strategies for development and mitigation that can be employed in Ísafjarðarbær are summarized in the following table (Table 15). Further explanations and examples are given below. Once the objectives of Ísafjarðarbær and the harbor are defined and aligned, these strategies will need to be employed in development plans or legislation.

Table 17: Strategies for Mitigation. Adapted from Hoogkamer (2013)

Tool	Actors	Results	Example
Off-Peak, Dynamic Pricing	Port Authority	Decreases congestion, less intense use	Venice, Italy
Passenger Fees, Local Taxes	Port Authority, Municipality	Funds maintenance & infrastructure	Alaska, USA
Cruise Calendar	Port Authority	Specify number of days per week with ship, Even/Odd day docking	
Marketing	Port Authority	Promote destination to specific demographic (expedition, small, ecotourism)	National Geographic Expeditions, AECO vessels
Tourism Management Committees	Municipality, Port Authority, Tourism Operators, Businesses	Creates relationships; Identifies problems and solutions	Part of LAC
Quotas & Limits	Port Authority	Caps number of ships or passengers	Dubrovnik, Croatia; Kodiak, Alaska; Svalbard; Belize
Buffer Zones	Iceland, Municipality	Regulates land use; Locates terminal to non-conflict area	UNESCO buffers
Technological Advances	International, Iceland, Port Authority	Use of cleanest fuels/energy, engines, systems; Hazard/Risk mitigation plan.	Shore Power

Port authorities and managers must carefully calculate fees to cover the expenses of port operations, services, maintenance, and security while not overcharging ships. It is also important to also include the costs of local infrastructure to accommodate cruise passengers. Communities like Ísafjarðarbær need to take full responsibility and resist the temptation to allow cruise lines to dictate growth and make decisions. Cruise lines can work out deals with regional, national or higher level governments to generate profit, even when the local community does not. However, a tourist tax can provide revenue for sustainable management investments. The state of Alaska (USA) set a $46 head tax in 2006, which generated revenue from cruise visitors but also caused declines in cruise calls (Klein 2010, p.68). Taxes are most efficient when levied at the local level, such as site entrance fees or port passenger fees which are collected and retained locally, rather than a nationally administered tax, such as tourist hotel room taxes, or airport taxes (Brown et al. 1997). The harbor, which is run as a business, should not only look out for its best interests, but also those of the broader community. A portion of the revenue should be set aside for infrastructure, community and environment funds.

Many cruise destinations around the world receive multiple ships simultaneously (Cozumel, Mexico can have up to 12 ships) and this is seen as acceptable by the cruise industry. Cruise lines are advised if there is another ship in port when they book, yet many choose not to change the itinerary, resulting in 2 and even 3 cruise ships per day in Ísafjörður. Cargo companies are also advised of the cruise schedule and are asked to delay or expedite their vessels so there is no conflict. The frequency of multiple bookings is increasing as the number of ships increases. In the 2014 season, three ships were scheduled for the 17th of June, the Independence Day in Iceland. The last booking was refused and will arrive one day earlier. These cruise ships will test the community as their national celebrations and holiday are infringed upon.

The harbor authority should set a cap based on current capacity and then re-evaluate contingent on the occurrence of dredging process and service development. The numbers must have clear reasoning and enforcement to be effective. This study has identified values based on limits of acceptable change and the carrying capacity of the port and town infrastructure. It is also important to remember land based tourists and recognize that the tourists who stay a while have a greater impact than the single day cruise passengers. With the current rate of passenger and ship increase, fatigue and irritation will soon set in if numbers are not capped. Several ports have established limits including Dubrovnik, Belize, Spitsbergen, Svalbard, and Kodiak, Alaska. In 2000, Bermuda established a 6,000 passenger-per-day limit; however, reports indicate that it regularly exceeds this limit by at least 2,000 passengers as Royal Carribbean overstepped local and national authorities (Sarkis 1999, Hoogkamer 2013). In Dubrovnik, the Port Authority only allows one ship at a time to dock in front of the historic city while two are allowed at the new port. The number of cruise passengers is also limited to 8,000 a day and they have refused ships that exceed this limit (Hoogkamer 2013).

In the past, the cruise season extended only three months and the short season exacerbated the concentration of cruise tourists. However the season has been extended to almost 140 days (May-September). There will be more ships over a longer period but with more days in-between. Weather early and late in the season can be volatile and the large cruise ships, built for warmer waters, pose a hazard in winter weather and sea ice. With a longer cruise season, the town will be able to accept more ships without causing crowding and lack of services, but there is also risk.

The town of Ísafjörður and its residents must first decide what types of ships are desired and what kind of destination it will become. The town can position itself to attract the desired amount and type of cruise activity by deciding if they really need to invest in newer and larger port facilities or not. If the town only wants to attract smaller luxury or expedition cruise lines, it should not build a terminal that can accommodate larger ships. The first cruise ships Ísafjörður welcomed were small, expedition type vessels. The cruise ships in this niche market are specialized for the Arctic have strict standards (AECO) and ethics. The passengers on these ships are well informed with onboard guides and education, therefore are more sensitive to the culture and environment. Passengers on larger vessels come rather unprepared and are more disturbing. Ísafjörður is best suited for small and medium sized cruise vessels, therefore marketing and investment should reflect the objectives and limits of the town.

Cruise ships have a negative impact on noise and pollution in Ísafjörður. A buffer zone can be used to decrease noise or air pollution. Ships will either have to meet the requirements to dock in the harbor or they will have to dock outside the buffer area. A buffer zone can also be created in conjunction with technological advances. The International Maritime Organization, the US and Canada adopted buffer zones around the two countries where all large ships must reduce the sulfur content of their fuel to 1 percent by 2010 and 0.1 percent by 2015 (Hookgamer 2013). Shore power reduces air pollution as it enables cruise ships to turn off their engines and switch to the sustainable power generated in the Westfjords. Onshore, buffer zones have also been used in land use planning to separate incompatible uses. This could be used to separate passengers from industrial and residential areas. Instead of a formal terminal a well-organized rest area with information signs showing where passengers can leave the port area is suggested for Ísafjörður harbor to alleviate conflict with dock workers. Passengers are described as walking in groups like sheep and well-marked pathways would manage their movement in town.

6. Conclusions

The town of Ísafjörður is unique and authentic destination. The harbor serves cruise ships through the modification of current docks, without infrastructure investment. Passengers are satisfied with their visit because Ísafjörður reflects the rugged and rustic north they expect with all the amenities to keep them comfortable. Residents are generally satisfied with the pace of cruise tourism growth and consider it to be an important part of the economy. This support of the industry from the community should be maintained and is vital to its success.

As the saturation point is nearly reached, a sustainable future can be achieved in one of two ways: 1) both public and private developers expand amenities and infrastructure to meet the increasing demands from tourists or 2) limits on growth are implemented. In the volatile cruise industry, it is wise to invest in services and not infrastructure. New services should be created instead of pricing the locals out of existing ones. Cruise ships can usher in further tourism, continuing the use of services. Facilities tailored to cruise ships will lose their purpose if the cruise lines change itineraries.

6.1 LAC Framework & Ísafjörður

Ísafjörður has not built a cruise terminal and its cruise market not yet established, so the town is in the position to act preemptively. Implementation of management and sustainable practices will help the town preserve its unique character. Cruise ships have a large potential to benefit destinations but also have detrimental aspects. Establishing the limits of acceptable change will allow Ísafjörður to benefit from the cruise industry while minimizing and mitigating the damaging parts of cruise ship tourism (Hookgamer 2013).

This research aimed to understand which conditions are important and sensitive to change as well as the priorities and objectives of residents. Scientists have the role of forcing questions, researching and providing knowledge, but do not provide an authoritative answer (McCool & Lime 2001). How much change is a social judgment, which can be informed by science, but it ultimately forged in the setting of ethics and policy. “Scientists may speak wearing the hats of concerned citizens,” but should not solely articulate objectives (McCool & Lime 2001). Therefore, the LAC process of defining objectives and drafting a management plan is largely up to the community, managers and politicians.

The LAC framework focuses on creating desired conditions rather than controlling users, by using management and mitigation strategies. A technical planning process like LAC can provide Ísafjarðarbær with the framework necessary to help define and maintain sustainability as tourism development commences. The process of establishing LAC is four-part: 1) Specify acceptable, reasonable, and measurable resources and conditions. 2) Understand the relationship between present conditions and those resulting from change. 3) Develop a management strategy that will result in the identified conditions. 4) Create a program for monitoring and evaluating effectiveness. This research has achieved the first two steps in the process, measuring conditions and resources as well as the preferred rate and direction of growth. Working in small groups, professional planners, public authorities, stakeholders and concerned citizens should consider all options (cases) and reach consensus based on both technical and publicly held knowledge.

The process should involve stakeholders and be transparent. A local management plan, formulated using the LAC process, would ensure the community takes control of the growth of cruise tourism. Ideally the plan would promote sustainable development by setting a budget, scale, location, restrictions, physical design and services for cruise ships. A management plan would protect the environment, target the appropriate cruise market and ensure that new development is compatible with the town image and goals. This will ensure both residents and cruise passengers will continue to enjoy the town, nature and its services. Ísafjörður could also work with other regional ports to develop itineraries that avoid peak days and congestion. Booking takes place two years in advance, and at the end of every season a Tourism Management Committee should assess the plans for the following years. This group of representatives would be aware of large changes, conflicts, capacities and over-use (wear and tear) and assess whether the cruise tourism is in align with the development plan. The ongoing future of cruise tourism in Ísafjörður is contingent upon the satisfaction of cruise lines and passengers as well as the continued support of the community.

6.2 Closing Remarks

Iceland currently comprises only 0.56% of the global share of cruise passengers. “The season is very short and everyone wants to go to Iceland,” says Guðmundur Kristjánsson, “all Iceland cruises are selling very quickly and at high prices” (pers. comm., 3 October 2013) Iceland has not hit the peak; the cruise companies have considered bringing more ships or withdrawing the current ships in favor of larger ones.

Ísafjörður is still in the development stages has yet to decide what type of destination it will become. The town is positioned to outline its goals and development objectives in a local action plan so that growth in the cruise industry is done sustainably and in line with community values and limitations. Ultimately, the dredging and designation of a cruise dock with a passenger terminal would usher in mass tourism in Ísafjörður. However, service and attraction development would have to precede harbor development as it is the current limiting factor. Mass cruise ship tourism is not wanted by residents and the community should be consulted prior to the building of a cruise terminal. The municipality and port need to create relationships with stakeholders so that all benefit and costs are reduced. Tourism can be an important part of the economy into the future. Cruise ship tourism is first and “put Ísafjörður on the map”, and is likely to be followed by other forms of tourism. Town image and nature are important and residents want to see the town flourish in the future. A local action plan, using sustainable development and the precautionary principal will ensure long-term economic growth and the satisfaction of cruise lines, all tourists and residents.

There is a growing interest in the impact of cruise tourism worldwide but little attention has been given to the impact it has on communities and culture. This research is the first in Iceland to inventory social and resource impacts of cruise ships using residents, a critical part of the resource, to assess change and carrying capacity. Further study on the economic impact of cruise ships, using passenger and crew surveys, would give a more complete picture. This work asks questions, provides knowledge and makes recommendations, however it is the responsibility of the community, managers and politicians to define objectives and draft a management plan. Should Ísafjarðarbær come to consensus and pass an action plan, then satisfaction, profitability and sustainability should continue into the future.

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Appendix A

A.1 Survey Questions & Design

Ísafjörður Tourism Household Opinion Survey

Gender

- Male
- Female

Age

- 15-24 Years
- 25-34 Years
- 35-44 Years
- 45-54 Years
- 55-64 Years
- 65 Years and Over

Which town do you live in?

- Ísafjörður
- Hnífsdalur
- Flateyri
- Suðureyri
- Þingeyri
- Other:

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Ísafjörður Tourism Household Opinion Survey

If you live in Ísafjörður, which area do you live in?

- In the fjord/Bónus
- Town Center
- Uptown

How important is it for Ísafjörður to pursue each of the following projects?

	Very Unimportant	Unimportant	Neutral	Important	Very Important
New Pool					
International Airport					
Harbor Dredging/ Expansion					
Road Improvement					
Tourism Facilities					
Development of Suðurtanga					
Waterfront parks and walkways					

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Ísafjörður Tourism Household Opinion Survey

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How many years have you lived in Ísafjarðarbaer (mark all that apply)

- [ ] All my life
- [ ] When I was a child
- [ ] More than 10 years
- [ ] More than 20 years
- [ ] Immigrated

If you immigrated, write city or country.

Do you live her year round?

- ( ) Yes
- ( ) No

For each of the following tourism-related activities, how is your everyday life affected?

	Not at all	A little	A lot	Don't know
Guided walks and hikes	( )	( )	( )	( )
Airplanes	( )	( )	( )	( )
Recreation (Kayaking, Horseback riding, Bicycling)	( )	( )	( )	( )
Tenting/Caravan	( )	( )	( )	( )
Cruise Ships	( )	( )	( )	( )
Sport Fishing	( )	( )	( )	( )
Photography	( )	( )	( )	( )

Are you aware when a cruise ship is in port?

- ( ) Yes
- ( ) No

If you answered YES, how so?

- [ ] Passengers walking streets
- [ ] Schedule provided by municipality
- [ ] Number of buses
- [ ] Newspaper or talk in town
- [ ] Other:

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Ísafjörður Tourism Household Opinion Survey

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	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Ísafjarðarbaer benefits from cruise ships	○	○	○	○	○
I personally benefit from cruise ships	○	○	○	○	○
Cruise ship tourism benefits other industries in the community	○	○	○	○	○
Cruise ship tourism is growing too fast	○	○	○	○	○
My community can handle/serve more cruise ships	○	○	○	○	○
I feel my view about cruise ships is considered by decision makers	○	○	○	○	○

Impact of cruise ship tourism on daily life.
How is a day with cruise ships different from a normal day?

	Very negative change	Slightly negative change	Indifferent	Slightly positive change	Very positive change	No Change
Amount of open space	○	○	○	○	○	○
Number of people	○	○	○	○	○	○
Peace and quiet	○	○	○	○	○	○
Safety from crime	○	○	○	○	○	○
Ability to conduct everyday business	○	○	○	○	○	○
Amount of car traffic	○	○	○	○	○	○
Amount of litter	○	○	○	○	○	○
Chance to meet new people	○	○	○	○	○	○
Ability to use recreation areas	○	○	○	○	○	○
Amount of noise heard	○	○	○	○	○	○
Crowding and congestion	○	○	○	○	○	○

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Ísafjörður Tourism Household Opinion Survey

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Amount of contact with cruise ship tourists

- None
- A little
- Moderate Amount
- Large Amount

Role cruise ship tourism should play in the local economy

- No role
- Small role
- Moderate role
- Dominant role

What industries (1st and 2nd) provide the most income for your household?

First

Second

Is any household income from tourism?

- None
- Direct
- Indirect

11. How much has as the growing presence of cruise ship tourism industry affected the environment, society and town?

Change Due to Cruise Ships

	Very negative impact	Slightly negative impact	Neutral	Slightly positive impact	Very positive impact	Do not know/ Will not answer
Amount of wildlife						
Quality of the natural environment						
Number of jobs for residents						
Number of jobs for foreigners						
Community spirit						
Personal income						
Awareness of cultural heritage						
Amount of pollution in the area						
Variety of restaurants						
Amount of local tax						
Quality of transportation						
Amount of uncontrolled development						
Preservation of historic buildings						
Amount of new buildings						
Variety of entertainment						
Variety of shopping facilities						
Friendships and social relationships among residents						
Decision-making in the municipality						
Clean air and water						
Understanding of different cultures						
The beauty of my community						
Resident participation in decision making/government						
My personal life quaity						
Participation in local culture						
Fair prices for goods and services						
Value of my house or land						
Walking/bicycle paths						
Businesses owned by residents						

Any additional concerns, comments, stories or anecdotes

Thank You for Particpating!

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A.2 Interviews

A.2.1 Key Informants & Questions

Transcripts available upon request:

- Guðmundur M. Kristjánsson - Harbormaster
- Katrin Líney Jónsdóttir - West Tours Cruise Manager
- Ralf Trylla - Town Engineer
- Heimir Hansson - Information Services
    - Background & Community Questions (where from, position description, years in town)
    - Early Tourism Business (year started, past experience, original services, original vision)
    - Current Tourism Business

        1. EMPLOYEES (FT, PT, Year Round, Seasonal, Local, Non-Local)

        2. PRODUCTS & SERVICES (current, change over time, what places)

        3. EQUIPMENT – facilities & resources (who owns/how many vans, buses, boats, etc)

        4. MARKETING (how would it be characterized, what percentage comes from cruise ship passengers, formal/contractual relationships with cruise companies?)

        5. VOLUME (your total visitor capacity? How many total visitors served this summer? How many trips do you run per week in the peak season (for each location?)

        6. ECONOMIC GAINS & OTHER BENEFITS

        7. NEGATIVE EFFECTS

        8. FUTURE DEVELOPMENT

            - Vision

            - Fears & Concerns

A.2.2 Stakeholders & Questions

Table 18: Stakeholders and interviewees. Transcripst availible upon request.

Type of business	Operators	Interviewees (Transcript available)
Tour operators	West Tours (Vesturferðir) Borea Kayak Center Iceland	Included as Key Informants
Lodging (B&Bs, motels, hotels, lodges, cabins)	Hótel Ísafjörður Hótel Edda Hótel Horn Gamla Gistihúsið Litla Gistihúsið Gistiheimili Áslaugar Bændahöllin	Hótel Ísafjörður (Áslaug Alfreðsdóttir)
Attractions	Maritime Museum & Neðstikaupstaður Ósvör Vigur Library/Old Hospital	Library (Jóna Símonía Bjarnadóttir, director) Maritime Museum (Jón Sigurpálsson, director)
Galleries/gift shops	Handverkshusið Karitas Westfjords Store Viking Store Eymundsson Bookstore Rammagerð Ísafjarðar	Westfjords Store (Eyþór Jóvinsson)
Shops (other)	Hafnarbúðin Fiskbúð Sjávarfangs Samkaup –Urval Bónus Craft Sport Clothing Stores Additional Stores	Fiskbúð Sjávarfangs - (Kári Þór Jóhannsson)
Transportation (air, water, or city taxi)	Taxis Air Iceland Passenger Ferries Public Transportation – Weekdays	
RV parks and camps	Tungudalur Hótel Edda	
Cafés & Restaurants	Café Bræðraborg, summer only Café Ísol Bakarinn Gamla Bakaríið	Café Ísol (Auður Ósk Aradóttir) Edinborg Bistro-Bar (Guðmundur Helgi

	Við Pollinn (located in Hotel Ísafjörður) Edinborg Bistro-Bar Húsið Tjöruhús, summer restaurant Thai Koon N1 petrol station (fast food) Hamraborg (fast food, pizza) Faktorshúsið Subway	Helgason)
Charter fish/ Small boat fleet/ Trawlers	Kampi HG Private owners	
Freight	Eimskip Samskip	Jóhann Ólafur Högnason (Eimskip)

1. Background & Community Questions
    1. **Personal** (where from, previous businesses, years in town, resident status)
    2. How would you **describe the town**? Is it authentic? Functional? Quaint?
    3. What are the **main industries** in town?
    4. What is **unique about Ísafjördur** that draws people here (what is the main visitor image (or event) is Ísafjörður most known for?)
1. Cruise Ship Impacts
    1. How do cruise ships **benefit Ísafjörður** as a community?
    2. What are most significant **negative effects** of cruise ships for the community?
    3. Are cruise ships **controversial** in Ísafjörður? (What are the positions being taken? Whose interests are at stake?)
    4. How does the growing presence of the cruise ship industry **affect every day life**? (relationships, business, recreation)
        1. Has tourism had an **effect on your business**?
        2. How does a cruise ship **affect trip bookings, bed nights or meals/drinks served**?
        3. What are your **biggest challenges** when a cruise ship calls?
        4. Do you think your business could **benefit more** from cruise ship passengers? How so?
    5. Has the growth in tourism **changed the way you think about Ísafjörður**?
    6. If you could picture cruise ship tourism in Ísafjörður in the best possible way, what is your **vision for the future**?

7. What **fears or concerns**, if any, do you have for future cruise ships in Ísafjörður?

A.3 LAC Procedure

1. Define issues and concerns. Process starts by identifying areas of concern so that desired baseline conditions of a resource area can be determined. (from interviews)
   - Cruise ships and passengers will overrun town
   - Development will be incompatible with local needs and assets
   - Outside forces could take over control
   - Community resources and the environment are being degraded
   - Cruise tourism will push out other visitors
   - Ships are too large for the town to handle
   - Passengers do not leave economic impact
   - Community will lose its character and authenticity
2. Define opportunity classes or zones – subsets of the study area that are of particular concern
   - Socio-cultural
   - Socio-economic
   - Environment
   - Community Development
3. Select indicators of resource & social conditions (See Table ???)
4. Inventory resource & social conditions – create a baseline study for which change can be measured against.
   - See Results
5. Specify standards for resource & social conditions
   - See Discussion
6. Identify alternative opportunity class allocations
   - Reduce amount of cruise ships and passengers
   - Maintain number of cruise ships but reduce number of passengers
   - Maintain current level of cruise ships and passengers
   - Increase the amount of cruise ships but not passengers
   - Increase amount of cruise ships and passengers
   - Develop more infrastructure and services, then increase amount of cruise ships and passengers
7. Identify management actions for each alternative and analyze the costs and benefits

   A. Reduce amount of cruise ships and passengers
      - ✓ Set a cruise ship limit
      - ✓ Implement a passenger cap
      - ✓ Increase taxes and fees
      - \+ Reduction in community problems
      - \+ Less environmental damage
      - \- Reduction in port revenue
      - \- Less income to businesses
      - \- Loss of positive impacts (social and development)

   B. Maintain number of cruise ships but reduce number of passengers
      - ✓ Implement a passenger cap or per-head fee

+ Reduction in community problems
+ Minimized environmental impacts
+ Increase in port revenue from head fees
- Some reduction in port revenue
- Less income to businesses
- Loss of positive impacts (social & development)

C. Maintain current level of passengers but reduce number of ships
+ More positive community impacts (social & development)
= Fewer cruise ship days
= Steady amount of income to businesses
= No increase in community problems
= Same level of environmental impact
- Decrease in port revenue

D. Maintain current level of cruise ships and passengers
✓ Set a cruise ship limit
✓ Implement a passenger cap
= No change from the baseline

E. Increase the amount of cruise ships but not passengers
✓ Change marketing
✓ Implement a passenger cap
+ Increase in port revenue
+ More positive community impacts (social & development)
+ Decreased environmental impact
= Steady amount of income to businesses
= No increase in community problems

F. Increase number of passengers but not amount of ships
✓ Change marketing
✓ Establish ship limit
+ More income to businesses
= Steady port revenue (possibly some increase)
- Increase environmental impact
- Increase community problems
- Potential for over-saturation of facilities and services
- Positive impacts could become negative

G. Increase amount of cruise ships and passengers
✓ No action
+ Increase in port revenue
+ More positive community impacts (social & development)
+ More income to businesses
- Increase environmental impact
- Increase community problems
- Potential for over-saturation of facilities and services
- Positive impacts could become negative

H. Develop more infrastructure and services, then increase amount of cruise ships and passengers
✓ Establish a local development plan
✓ Change marketing
+ Increase in port revenue
+ More positive community impacts (social & development)

+ More income to businesses
= Avoid community problems
= Mitigate environmental impact
- Potential for overdevelopment
- Potential loss of investment

Option	Increase	Maintain	Decrease	Score
A			**Passengers & Ships**	**-1**
B		**Ships**	**Passengers**	**0**
C		**Passengers**	**Ships**	**0**
D		**Passengers & Ships**		**0**
E	**Ships**	**Passengers**		**+3**
F	**Passengers**	**Ships**		**-2**
G	**Passengers & Ships**			**-1**
H	**Passengers, Ships, Development**			**+1 to +3**

A. Decreasing both passengers and ships would have the effect of reducing public and private incomes as well as the positive social impacts. This would stymie development and threaten the survival of new development (stores and cafes). This type of action would reduce some of the environmental issues and community problems. This outcome could be achieved through the combination of port caps and increases in taxes or head fees.

B. Maintaining the number of ships and decreasing the number of passengers would have the effect of reducing the passengers per ship. This would best be implemented through a head tax. Some revenue would be lost by the harbor due to smaller ships, but it could be regained through new taxes. The environmental issues and community problems would likely be reduced with fewer passengers. Maintaining the number of ships also ensures that there are days without cruise so that people will continue to reap the positive social impacts. But further social benefit and development would be

reduced due to fewer people in town. With smaller ships, businesses are likely to see fewer customers as a larger percent of passengers take excursions.

C. Maintaining the number of passengers but decreasing the number of ships would have the effect of fewer, but larger ships. The environmental and community problems would be compacted into fewer days. The town would still be able to recieve positive social benefits and new developments could still continue. Business income would be steady or possibly increase as more people would be in townsince not all can take excursions. The tonnage would be reduced per person (economies of scale) so the harbor would recieve less revenue.

D. Maintaining the industry at the current level would require both a ship and passenger cap. There should be no difference from the baseline.

E. Increasing the number of ships but maintaining the number of passengers would have the effect of smaller ships on more days. This could be achieved by implementing a per day passenger cap and changing in marketing. These smaller often expedition style cruises tend to have rigorous environmental and social standards. There would be no increase in community problems and a steady amount of income to businesses. This type of cruise uses economies of scale to generate more revenue for the harbor as the tonnage per passenger is greater.

F. Increasing the number of passengers but maintaining the number of ships would have the effect of larger ships. There would be the same number of cruise days, but the harbor would receive more revenue. This would happen with a change in marketing along with a ship number cap. Larger ships and number of passengers increase environmental impact as well as community problems. Without further development, there is the potential for over-saturation of facilities and services. Then the positive impacts could become negative.

G. Increasing both the number of ships and passengers would have the effect of more ships and more passengers on more days. This will happen if no action is taken. The port revenue will increase and there will be more income to businesses. There may be more positive social impacts, but these could become negative. However, community problems and environmental impacts would also increase. With these bigger and

more frequent ships, there is the potential for over-saturation of facilities and services.

H. Developing infrastructure and services before welcoming more ships and passengers has the effect of mitigating problems before they arise. Initially there would be costs, but in the long run the minimization of community and environmental problems will make up the investment. This should happen with a strict local management plan and a change in marketing. A plan will ensure positive social impacts continue. The income to both the harbor and businesses will increase. If development is not controlled, there is the potential for overdevelopment. And if cruise lines change iteneraries, the capital put into investments would be lost.

8. Evaluation and selection of an alternative
    - I would advocate for E or H, or some combination of the two
    - Town is tolerant and even supportive
    - Biggest ships seem to be too big
    - Could develop to keep up or cap number of passengers per day
9. Implement actions and establish program to monitor conditions

    Necessary Actions: Certain quality standards must be achieved. (see Cruise Norway Guidelines)

    1. A survey is time consuming, so is likely unrepeatable. Set baseline conditions
    2. Tourism Management Committee

        1.Harbormaster
        2.West Tours
        3.Town Engineer
        4.Business Representative (shops & restaurants)
        5.Industry Representative (fishing & freight)
        1.Attractions Representative (museums/library)

    3. Open town meetings

Table 19: Local perception of cruise ship tourism in their community (% respondents)

	Ísafjarðarbær benefits from cruise ships	**I personally benefit from cruise ships**	**Cruise ship tourism benefits other industries in the community**	**Cruise ship tourism is growing too fast**	**My community can handle/serve more cruise ships**	**I feel my view about cruise ships is considered by decision makers**
Strongl	43.8	5.8	27.0	11.2	8.6	14.8

y Agree						
Agree	43.4	10.1	51.6	18.2	17.2	33.1
Neutral	8.5	24.1	16.0	29.8	40.7	30.7
Disagree	3.1	21.8	4.3	27.9	18.2	12.8
Strongly Disagree	1.2	38.1	1.2	12.8	15.3	8.6


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