

Sea Kayaking North Carolina's Outer Banks  
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EXP 436: Senior Expedition

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## Abstract

“EXP 436: Senior Expedition”, may appear at first glance to be just one of the many courses listed on an expeditionary studies student’s Curriculum Advising & Program Planning (CAPP) Report. However, an expeditionary studies student’s senior expedition is more than your average class. It is the capstone course in the program, requiring the student to use all the knowledge and skills they have developed over the past three years, culminating in a student planned and run expedition.

My expedition has been set for May 2010, and will take place along the North Carolina Coast. Myself and one other partner will paddle the 70 nautical miles of Cape Lookout National Seashore and an additional 20 nautical miles of Ocracoke region of Cape Hatteras National Seashore. We will travel in an effort to learn more about the area’s natural and cultural history, as well as in search of good surf beach or two. In the process we will spend approximately six nights primitive camping on the barrier islands following Leave No Trace guidelines. Some highlights of the trip will include visiting the historic Cape Lookout and Ocracoke lighthouses and the historic city of Ocracoke, exploring the abandoned town of Porthsmouth, spotting wild ponies on Shackleford Island, and the opportunity to experience rough water and surf.

This trip will involve a moderate degree of difficulty. We will be paddling around fifteen nautical miles a day on the exposed Atlantic Coastal shoreline, allowing for the daily possibility of moderate wind and swell, caused by inclement weather. However, given the geography of the barrier islands there is the option, should the conditions arise, to take an alternate route inland through the

Intracoastal Waterway. We may also choose this route for one or two days of travel, to be able to experience the marsh ecosystem that exists on the protected side of these barrier islands. Although the Outer Banks only have a small two-foot tidal range some of the inlets that cut through the barrier islands can have currents in excess of three knots. While manageable, proper planning and timing will make travel much easier.

This expedition is sure to test my planning, personal paddling, and camping skills. There is no doubt in my mind that it will be a challenging experience, but will hopefully be an enjoyable one as well. In the following pages you find the written result of the planning process for this expedition.

## Introduction

I arrived at Plattsburgh State University in the fall of 2007 as an environmental science major hoping to pursue an expeditionary studies minor. The EXP program, as it is so lovingly called, led me to the San Juan Islands of Washington State the spring semester of my freshman year, and it is here that I discovered my love for this program. After experiencing my first airplane flight and living out of a kayak for a week I decided there was no way I was only going to minor in this amazing program. I was “hooked”, and returned the following semester as a double major in environmental science and expeditionary studies.

The EXP program has allowed me to travel to some amazing locations while developing and refining my technical kayaking skills and my leadership experience. I have been lucky enough to paddle not only the waters surrounding the San Juan Islands but also the coast of Rhode Island, the Outer Hebrides of Scotland, and the Pembrokeshire Coast of Wales. However, over these years, the ever-lingering question of what I wanted to accomplish as a senior expedition always remained.

For a while I thought it would be great to paddle in an exotic location or in a country halfway around the globe. However, my years here at Plattsburgh have flown by faster than I could have ever expected, and the time for my senior expedition has arrived. What once was a dream to paddle exotic shorelines has morphed into a desire to plan and execute a trip that is affordable, practical, achievable, and yet still, above all, enjoyable.

For these reasons I have chosen to head for the Outer Banks of North Carolina during the summer of 2010. Easily reached via land travel, the Outer

Banks offer remote camping and the opportunity for a variety of paddling conditions. Due to the nature of these barrier islands paddling in both ocean conditions and more protected bays is available. Dubbed the “graveyard of the Atlantic”, due to the number of ships that have sunken off it’s shores, this area is known for its potential to produce dangerous ocean conditions during storms, which could prove to be an added challenge during this trip. On a good day however, the adventurous paddler can find moderate surf, and areas of confused water caused by the ever-changing offshore shoals, providing excellent locations for improving rough water skills, and exciting paddling.

Not only will the potential for heavy surf, strong winds, and stormy seas keep things interesting, the historic nature of these islands is sure to provide us with numerous places of interest along the way as well. The historic home to the first machine powered flight, Blackbeard the Pirate, and a handful of historic lighthouses including the worlds tallest, the Outer Banks is a fascinating place to visit. When not seeking out a good surf beach, we will keep our eyes peeled for the wild ponies that call some of these islands home. We will also be sure to take time out from paddling to explore these distinctive ecosystems on foot.

I am excited to test all the skills I have accumulated through the expeditionary studies program on this, my senior expedition. While in many ways this may seem like the culmination of my paddling career, in reality it is the exact opposite. This is just the beginning of what will hopefully be a lifetime full of paddling and traveling, a life full of “senior expeditions”.

## Goals and Objectives

As the capstone course for the expeditionary studies degree, I hope and expect to find my senior expedition to be a challenging, rewarding, and enjoyable experience. It is a chance for me to put to use the skills and knowledge I have accumulated while here at SUNY Plattsburgh, and an opportunity to add to my developing resume. My goals and objectives for my senior expedition are sure to evolve as I delve deeper into the world of expedition planning, and as I truly begin to grasp the realities of such an undertaking. However, the beginning framework of a feasible expedition is beginning to take shape.

The overarching goal of my expedition is to sea kayak the Outer Banks of North Carolina, and to do so in an independent and unsupported manner. This expedition will be the first such trip which I will have completely planned out and executed without major assistance from outside sources. Any previous expeditions I have been on have been carried out with the assistance of instructors from within the expeditionary studies department and from fellow students. I believe I will find this to be a new and exciting as well as a challenging experience.

Not only will I find successfully completing such an expedition to be personally enjoyable but I also believe it will be of great benefit to my developing adventure based resume. It is extremely beneficial to be able to prove to potential employers that I have the background knowledge and skills to plan, prepare, and execute such an undertaking independently and safely.

An expedition of this magnitude will also involve extensive research to be completed during the planning phase. This research will help to ensure that the

trip is undertaken in a safe and enjoyable fashion and will also help to develop and fine-tune my writing and research capabilities. I am sure to gain further experience gathering pertinent information and developing research-based writings throughout this process.

As mentioned above, the broad goal of my expedition is to kayak and explore the coastal regions of the Outer Banks of North Carolina. Kari Dahlquist and myself will depart from the New York City area on May 14<sup>th</sup> and travel via car to North Carolina's coast. Our expedition will begin on May 15<sup>th</sup> from either the city of Ocracoke or the visitor's center on Harkers Island. We will then travel either south or northward along Cape Lookout National Seashore. Our route is flexible and will be dependant upon weather forecasts, and transportation arrangements. During our seven days of travel we will cover in excess of ninety nautical miles of coastline. We will paddle approximately fifteen nautical miles daily and camp primitively, following Leave No Trace guidelines, on the coastal barrier islands that compose the Outer Banks.

While these goals form the backbone of my planned expedition, I also have several underlying objectives, which I hope to achieve while pursuing these main goals. North Carolina's barrier islands are steeped in natural beauty as well as cultural history. Unlike many of the Atlantic coast's barrier islands, a large portion of the Outer Banks has escaped the crushing hands of industry. Prior to departing on my expedition I hope to gain some background information on the natural and cultural history of North Carolina through online research and books, which I can then implement in the field for a more informative and intimate experience with the surroundings we will be encountering.

After arriving in coastal North Carolina, we will begin our trip at either the Harkers Island Visitor Center or the city of Ocracoke. We will then spend six to seven days paddling along Cape Lookout National Seashore and the island of Ocracoke, arriving at our ending location by May 21<sup>st</sup>. Primitive camping along the way, we will seek out the natural treasures that lie within the seashore's pristine shoreline. During our time on the islands we hope to explore the abandoned town of Portsmouth, visit the Cape Lookout Lighthouse, and seek out the wild ponies of Shackleford Banks.

North Carolina's coast has a steep seabed, which can create dumping surf. However, unless the wind picks up, breakers are usually small in size, hovering around the three-foot range. Choppy waters can also be found in areas where ocean currents deposit sand, creating shallow areas called shoals. If presented with the right conditions I hope to do a bit of surfing during the trip and possibly work on rough water skills near these shoals.

The more research I do and the deeper I dig into the wealth of possibilities that exist for my expedition the more excited I become to execute it. I know that it will involve more careful planning and preparation than probably anything else I've ever done, but I believe I am up for the challenge. The expedition itself will be physically and mentally demanding, but given time and proper preparations I have confidence that I will be able to achieve my goals.

### Team Members and Support Structure

For my expedition to North Carolina's Outer Banks my team will consist of myself, my teammate Kari Dahlquist, and a variety of outside resources that could be contacted for information, or if an urgent situation were to arise. Kari and I have shared numerous paddlesport experiences together and I know that with our combined skills and experiences we will make a strong and confident team.

#### Allison Waring

Allison's paddlesports career began at the tender age of eleven with the purchase of the family canoe. She has since graduated to various forms of watercraft, and began to take paddling seriously in 2007 with her arrival at Plattsburgh State University. Through her involvement with the expeditionary studies program at Plattsburgh, Allison has gained a wealth of knowledge and experiences enabling her to become a confident paddler capable of undertaking extended expeditions.

Allison has paddled extensively on New York's Lake Champlain and in the coastal environments surrounding Long Island, areas she considers to be her home waters. She has also been lucky enough to be given the opportunity, through the paddlesports curriculum at Plattsburgh State, to kayak in such locations as the San Juan Islands of Washington, the coast of Rhode Island, the Outer Hebrides of Scotland, and the Pembrokeshire Coast of Wales. These experiences have allowed her to be exposed to a variety of coastal environments

and to build upon her personal paddling and planning skills. She hopes through this expedition to add the Coast of North Carolina to her growing resume.

In addition to completing a variety of courses within the expeditionary studies curriculum, covering a wide range of topics including expedition planning and outdoor living skills, Allison is also a British Canoe Union (BCU) three-star sea paddler and a level-one coach. Through these certifications and completed courses she has built the foundation of knowledge and skill necessary to complete an extended on-water journey. She is confident in her personal paddling abilities, on water navigation skills, camping abilities, and is comfortable in tidal environments. However, most important she is aware of what she knows and what she has yet to learn, and does not see any need to put the team at risk in conditions they are unable to handle.

In compliance with the requirements for her BCU level-one training, she has successfully completed her Foundation Safety and Rescue Training course (FSRT) and obtained her Wilderness First Responder certificate in January 2010 through SOLO. Allison has drawn from these experiences and certifications to build a firm basis that will enable her to complete this expedition safely and efficiently.

To prepare for this expedition, Allison will spend as much time as possible in the seat of a kayak, working on endurance and speed, to ensure she is able to complete the distances planned in the allotted amount of time. She will also venture out in rougher and tougher conditions to become more confident in non-ideal situations. During paddling season she hopes to get out on Lake Champlain a few times a week and supplement her training with other activities such as

biking, hiking, and swimming. During the many months that Plattsburgh more closely resembles an arctic wasteland, Allison will turn to the heated waters of the Memorial Hall swimming pool. Here she will work on her endurance through lap swimming and perfect her strokes in the Movement and Balance class. She also hopes to take up skiing to keep her busy and active during the winter months.

Allison loves nothing more than to live out of a kayak while traveling the shores of remote areas. As a dual major in environmental science and expeditionary studies, she has a strong appreciation for the range of natural environments that exist in the world, and a desire to explore and learn as much as possible about the habitats that surround us. The connections she feels to nature while kayak touring is incomparable to any other activity she has ever participated in. She hopes through this expedition to further this connection to nature as well as her personal paddling, leadership, and planning skills.

## Kari Dahlquist

Allison is excited to have Kari Dahlquist co-leading this expedition with her. Kari began paddling in the summer of 2007. Since then she has paddled in the waters surrounding Catalina Island in California, the San Juan Islands of Washington, the coast of Rhode Island, Maine's Bar Harbor, the Outer Hebrides of Scotland, the Pembrokeshire Coast of Wales and the waters of Lake Champlain.

Kari currently holds a British Canoe Union (BCU) two star paddling award, and is a BCU UKCC level one paddlesports coach. Apart from having a diverse background in sea kayaking, Kari is also a certified New York State EMT, a SOLO Wilderness EMT, a Red Cross Lifeguard, a PADI dive master, and has completed the necessary training to become a dive medical technician. She has worked as a rescue diver and waterfront lifeguard in Southern California and an aquatics instructor on Catalina Island. Kari will bring a diverse background of safety and kayaking training but also companionship.

Kari and Allison can often be found paddling into Lake Champlain sunsets together on crisp fall evenings. Though their friendship is strong, they also push each other to become the best paddlers possible. To prepare for this expedition Kari and Allison will train together as often as possible but will communicate via email, phone, and in person to ensure that each is getting enough paddle time in to be able to complete in excess of 15 mile days, for a week, and do so at a reasonable pace. They will also complete several extended day trips together prior to departing to ensure that each is physically capable of completing the expedition.

Given her extensive certifications and observed paddling abilities, Kari will be a strong member of the team, capable of covering the planned distances and doing so safely. Personalities are also a major consideration when planning an extended trip. Both Kari and Allison are organized individuals who share similar perspectives on how an expedition should be executed and what the goals of such an expedition should be. As leaders for this expedition Allison and Kari will ultimately take responsibility for its success or failure, but look forward to building their paddling resumes and their friendship on the “2010 Coastal North Carolina Outer Banks Sea Kayaking Expedition”.

#### Support Structure and Emergency Contacts

Local and emergency contacts will also serve a vital function during the planning and execution phases of this trip. Local contacts can be invaluable due to the wealth of knowledge they can provide that cannot be found in other sources. Places such as *Barrier Island Kayaks* have years of experience traveling via kayak in the area and can provide us with insider information that can be very useful when planning an expedition. Emergency contacts such as local police, coast guard, and ferry services will be vital information to have as well, should for some reason we need assistance or a quick route off the islands, back to the mainland. A complete list of support structure and emergency contacts can be found in Appendix E.

### Call in Plan

Before departing on our expedition, we will leave an updated itinerary with Larry Soroka and Steve Maynard. Cell phone service is usually available on the islands of the Outer Banks, but to avoid worry if for some reason we are unable to make contact, we will only plan to call-in at the end of our expedition on May 21<sup>st</sup> (date subject to change but will be confirmed before departure). If our itinerary changes during the trip, every attempt will be made to let someone know of our change in plans. Allison and Kari's parents will also be aware of our itinerary and available for contact.

## Natural and Human History of the Outer Banks

The Outer Banks of North Carolina consist of several narrow islands that span the shoreline off the state's coast. Stretching 130 miles long and less than a mile wide at most points, the islands appear as a ribbon of sand from aerial photographs. Bordered by the Atlantic Ocean to the east and a series of sounds to the west, these islands act as a barrier, aiding in the protection of North Carolina's mainland from the pounding winds and waves of the Atlantic Ocean. Because they are so narrow, the islands are at the mercy of the winds, waves, and currents, and are constantly changing form. Poundings from summer hurricanes and winter and spring "Nor'easters" help to accelerate this process. Just as the islands have been physically changed by nature, so have the ways in which man has colonized and developed their sandy shores. ("Things to Know")

Between 1524 and 1588, French and Spanish explorers visited the Outer Banks in their search for gold. In 1584 English colonists attempted to settle on Roanoke Island under a charter by Queen Elizabeth the First. The attempt was the first of its kind for the English, preceding both Jamestown and Plymouth colonies. Two attempts were made to settle in the area but both attempts failed after the colonists disappeared. It is unclear why the colonists vanished but historians speculate that they were either absorbed by Native American groups, perished at sea, were conquered by the Spanish, or moved to another location. The area is now known as the "Lost Colony", and is a popular destination for visitors today. ("History Timeline")

During the early 1700's the banks became the hiding grounds for pirates. Between raids, pirates like the infamous Blackbeard would return to the

protection of Ocracoke Island where his castle was located. In June 1718 Blackbeard's main ship, Queen Anne's Revenge, ran aground near what is now Beaufort, North Carolina. The ship sank but Blackbeard and his men survived until he and many of his men were later killed by Royal Navy Lieutenant Robert Maynard in a sword and gunfight. What is believed to be the wreckage of the Queen Anne's Revenge is today a popular attraction for local and visiting scuba divers. ("Blackbeard")

The Queen Anne's Revenge was not the only boat to be claimed by the seas off the coast of North Carolina. The Outer Banks and the waters off its shores have claimed so many sea faring vessels that the area has earned the nickname "Graveyard of the Atlantic". Claiming untold numbers of ships, the coast of North Carolina is where the cold waters of the Labrador Current meet the warm waters of the Gulf Stream, creating an area of confused seas. The collision of these currents shifts around the sandy ocean bottom creating shoals. These shoals are continuously moving, creating shallow breaking water where they lay. The added factor of occasional winter "Nor'easters" and summer hurricanes only escalates the danger level for seafaring vessels. The protected waters past the island's many inlets appear tempting in a storm but the shifting sand banks that lie beneath the shallow waters of these inlets can wreck havoc on a large boat. ("Man the Beach Cart")

For two decades prior to 1848, brave volunteers scanned the waters offshore for ships in trouble to help combat the loss of life caused by these shipwrecks. Following 1848, federal funds were made available to provide for this service. The U.S. Lifesaving Service, as it was called, and its "surfmen", rescued

thousands of men from the stormy seas off of the Outer Banks. These “surfmens” launched into the sea while others ran from it, risking their lives to save the lives of others. In 1915 the U.S. Lifesaving Service was incorporated into the U.S. Coast Guard. Though the tradition of saving lives has continued, high-tech equipment such as helicopters has replaced the old surfboats of the lifesaving service. (“Man the Beach Cart”)

Today, a few of the original lifesaving stations still remain, as private homes and businesses or as museums open to the public. The most famous of these is the Chicamacomico Lifesaving Station in Rodanthe on Hatteras Island. Built in 1874, this lifesaving station, manned by six surfmen, patrolled the surf zone on a daily basis. Possibly, the most heroic of their rescues, occurred in 1918 when the men of the Chicamacomico station rescued 47 of the 57-man crew from the doomed British tanker Mirlo, when it was torpedoed in the offshore waters of Hatteras Island. In 1954 the U.S. Coast Guard decommissioned the station, but its history lives on in the form of a museum open to all those who wish to visit. (“Rodanthe: Chicamacomico”)

While the surfmen and coast guard lifesavers act to save those lives in trouble, the lighthouses that stand tall over the sandy shores of the Outer Banks serve as a warning beacon to all those who drift near. Currently seven lighthouses watch over the shores of the outer banks. They are the Currituck Beach Lighthouse, Bodie Island Lighthouse, Cape Hatteras Lighthouse, Ocracoke Lighthouse, Cape Lookout Lighthouse, Bald Head Lighthouse, and Oak Island Lighthouse. Of these Cape Hatteras lighthouse and Currituck Beach Lighthouse are open to the public. The Bald Head and Ocracoke Lighthouses were

constructed first in 1817 and 1823 respectively. Cape Lookout Lighthouse was constructed in 1857, followed by The Currituck, Bodi, and Cape Hatteras Lighthouses, all of which were constructed in the 1870's. The last, currently operational, lighthouse to be constructed in the Outer Banks was the Oak Island Lighthouse, which was constructed in 1958. The area's lighthouses are some of the most exceptional in the world. Cape Hatteras lighthouse is the tallest in the United States, standing at a respectable 196 feet, and Oak Island Lighthouse has the second strongest light in the world. ("Beacons of the Coast")

The Outer Banks is not only known for its stormy and dangerous seas. On December 17, 1903 Orville Wright made the first machine powered flight in the world. The Wright brothers chose the Outer Banks for their strong winds, which blow off the Atlantic, and the soft sand dunes, which could cushion a fall. Today, it is possible to visit the Wright Brothers National Memorial, located at Kill Devil Hills, the site of this historic event. Tours are given daily and a museum and memorial atop a ninety-foot sand dune are open to the public. ("Wright Brothers")

The world, and the way we communicate messages, would also be quite different if it were not for the work of Reginald Fessenden. In 1902 Fessenden transmitted the first wireless telegraphy over a fifty-mile distance between Buxton on Cape Hatteras Island and Manteo on Roanoke Island. Fessenden transmitted the wireless message while working for the United States Weather Bureau, helping to revolutionize the way we transmit messages, including those used in making weather forecasts. ("Wireless Telegraph")

Today the Outer Banks are home to a bustling tourism business. Visitors come from all over the country and the world to rent vacation homes on Hatteras Island, or to soak in the historic nature of the area on Roanoke Island or at the Wright Brothers National Memorial. While many come to explore the quaint towns or to relax on a sun filled beach, still others look to fill a need for a more remote adventure.

Cape Lookout and Cape Hatteras National Seashores cover a large majority of the Outer Banks helping to preserve the natural and cultural history of the area. Cape Lookout National Seashore encompasses fifty-six miles of shoreline and the southernmost islands in the Outer Banks chain including Shackleford Banks, Cape Lookout, South Core Banks, North Core Banks, and Portsmouth Island. With few developed areas and no paved roads, Cape Lookout, is the more pristine of the two seashores, and is the perfect destination for those looking for a secluded day trip or an elongated camping expedition. Primitive camping is allowed throughout the seashore with the exception of a few excluded areas (“Things to Know”). Cape Hatteras National Seashore covers over seventy miles and the northern most islands in the chain including, Ocracoke Island, Hatteras Island, and Bodie Island. Easily accessible by passenger ferries, and paved roadways, Cape Hatteras is the more visited of the two seashores, and is therefore much less remote and undeveloped than Cape Lookout (“Plan your visit”). While Cape Lookout retains the majority of its natural character, Cape Hatteras preserves its natural heritage in small clusters of protected land. Dominated by wide beaches and grass covered dunes on the Atlantic side, and

extensive salt marshes along the sound, these islands are home to an abundance of plant and animal life. (“Natural Features & Ecosystems”)

Mammals are uncommon on the islands but rice rats, rabbits, river otters, and raccoons are native to the area. The wild horse, a non-native mammal, roams free on the shores of Shackleford Banks. These horses are descended from those stranded on the island by Spanish explorers in the 16<sup>th</sup> century. Over the years they have become a part of the natural ecosystem and are considered just as much a part of the wildlife as the native sea turtles. Loggerhead, Green, Kemp’s Ridley, and Leatherback turtles routinely visit the islands throughout the year and Loggerheads nest on the shores during the summer months. Many bird species also use the pristine shorelines as a nesting site during the summer. These species include terns, egrets, black skimmers, herons, and piping plovers. The Outer Banks are home to a variety of snake species, including the cottonmouth, a venomous species. However, there are no venomous snake species on the Islands of Cape Lookout or Ocracoke Island. They are restricted to the northern islands of Cape Hatteras. (“Animals”)

Marine mammals such as dolphins and sharks are also common off the North Carolina coast. Although the waters off the islands are home to a wide variety of shark species, only a few venture into shallower waters closer to shore. During the summer months the sharks most often spotted inshore include the sand tiger, sand bar, spinner, bull, blacktip, and scalloped hammerhead sharks. Most are harmless to people unless provoked (“What kinds of sharks”). The Atlantic bottlenose dolphin is the most common species of dolphin spotted off the coast of North Carolina. Preferring inshore waters and traveling in groups, these

creatures are a popular attraction for those visiting the area (“What is the difference”).

Vegetation on the barrier islands is subdivided into four categories: beach and dune vegetation, wetland vegetation, shrub thickets, and maritime forests. Grasses such as sea oats and cord grass dominate beach and dune vegetation. The wetland areas are dominated by sawgrass, salt grass, cattails, and in many areas the invasive common reed phragmites. Dense vegetation of oak, red cedar, and vining plants such as poison ivy cover areas classified as shrub thickets. Though rare on North Carolina’s barrier island, characteristics of maritime forests include, densely vegetated regions of live oak or loblolly pine with varying species of understory vegetation such as blueberry, huckleberry, poison ivy, American holly, and Virginia creeper. Ghost Forests can also be found along the shores where living forest once stood but the ocean now reigns. The sun and ocean waters have bleached the remnants of these dead trees causing them to more closely resemble bones scattered along the beach. Once part of a living maritime forest, but now consumed by the sea, these remnants serve as a reminder of just how quickly these islands are moving and changing. (“Plants”)

The combination of cultural history and scenic beauty along with the large variety of ocean and sheltered water conditions make the Outer Banks an ideal place to kayak. Both the beginning recreational paddler and the more advanced sea kayaker can find something to suit their needs. The sounds and channels of the Intracoastal Waterway generally provide more sheltered conditions when the wind and swell picks up in the open ocean. Those seeking more adventurous

conditions can find them in the surf zones that can vary in size and difficulty, and the areas of standing waves that form along the many sand shoals.

There are quite a few shops in the area that sell kayaking related gear and supplies or rent out kayaks to visitors. Many of them cater to introductory level kayakers, kayak fishermen, and those interested in a guided tour of the area. However, as the popularity of paddlesports continues to grow within the United States, and more people are becoming more serious about the sport, visitation to areas such as the Outer Banks is likely to grow. There are few locations left along the east coast of the United States that are suitable for extended kayaking expeditions. The Outer Banks of North Carolina is one of them. Recently featured in the movie “Eastern Horizons”, the Outer Banks was rated as one of the top kayaking destinations in the southeast (“From Ice to Fire”). *Barrier Island Kayaks* is one of the premier outfitters in the area, and is helping to promote the advancement of the sport through guided tours, rentals, and high levels of instruction through British Canoe Union certified instructors (“Coastal Academy Sea Kayaking”).

The Outer Banks is a place of great natural and human history. Home to pirates, shipwrecks, the first machine powered flight, sea turtles, dolphins, and wild ponies, these narrow, sandy islands are a treasure for visitors. With hundreds of miles of coastal shorelines, what better way to explore these coastal treasures than from the seat of a kayak?

## Defining and Controlling Risks, and Contingency Planning

We will make every effort prior and during the trip to ensure that this expedition is undertaken in a safe manner. A good risk assessment and management plan can help ensure that likely and unlikely hazards are controlled to the best of our abilities. The risk management plan below breaks down the most potential hazards into three categories: camping, paddling, and environmental hazards. These hazards were then rated 1 to 5 for the likelihood that they may occur, one being the least likely and five the most likely, and then rated 1 to 5 once again for their risk prior to implementing controls to avoid the situation, with 1 being the least dangerous and five being life threatening. Following this, a list of controls were mentioned that could help to mitigate the possibility of the event occurring and then the risk was rated one last time on a 1 to 5 scale rating the danger once these controls were applied. This risk management plan coupled with a good set of well-defined crux points and go/no go scenarios, that describe when and under what conditions we are willing to take acceptable risk, will help to eliminate the number of unnecessary risks we will be taking throughout the expedition

In addition to these items below you will also find a list of contingency plans that describe what will happen in the event that the original expedition cannot take place as planned. This is in effect my Plan B if severe weather blows our way or if for some reason the expedition has to be turned into a solo trip.

## Risk Management Plan

<b>Hazard</b>	<b>Likelihood</b>	<b>Risk Prior to Controls</b>	<b>Controls</b>	<b>Risk with controls</b>
<b>Camping</b>				
Tent Failure- broken poles, tears, missing pieces	3	4	Check tent before leaving, Bring repair kit to fix broken poles, patches, extra long tent stakes for sandy conditions	1
Broken stove	3	4	Check stove prior to leaving, bring repair kit, have an alternate method of cooking (extra stove, fire, etc.)	1
Stove explosion	1	5	Check equipment periodically and prior to departing, cook in an open area	2
Wet clothes or sleeping bag	2	3	Pack important items into dry bags, bring rain gear,	1
camp injury- stepping on something, small cuts, etc	3	2	Bring a first aid kit with sufficient supplies, wear shoes around camp, and be alert to avoid injuries	1
Major Injuries- Severe lacerations, Concussion etc.	2	5	Stay alert and avoid dangerous situations. Wear shoes around camp, wear a helmet while paddling, stay away from sharp rocks, be careful when opening cans, etc.	1
Running out of food	2	5	Bring enough food for the planned trip plus an extra emergency ration should we have to spend some additional time on the islands, or should some food go bad. Know the locations of places where food can be obtained	1
Running out of water	3	5	Bring sufficient water plus extra for the trip, and know the locations where water can be obtained.	1
Minor illness- upset stomach, etc	3	2	Bring a variety of over the counter medications for common ailments	1

Severe illness- unable to paddle	2	5	Follow good hygiene practices, especially when preparing food. Have the flexibility to take a day off from paddling. Have a first aid kit stocked with common over the counter medications and prescription medications for team members. Have the ability to contact emergency services via VHF or cell phone if evacuation is needed	1
Unable to find suitable camping location	2	5	Have possible locations picked out ahead of time. Obtain permits and make reservations ahead of time, make sure distances between campsites are not excessive. Establish "go/no-go" guidelines prior to departing.	1
Forgotten gear	2	4	Have an equipment list, check and re-check the list and do so for your partner prior to departing, pack carefully, know where gear can be obtained once on location	1
Not enough clothes/inappropriate clothing	2	4	Check climate data to know what to pack, Have a packing list	1
Sleep deprivation	3	5	Ensure that we get enough sleep, get off the water at an appropriate time to ensure restful evenings, have a stock of OTC sleep aids for use in extreme cases	1
Malnutrition	2	4	Ensure proper foods are packed that contain enough calories and nutrients to supply our bodies with what they need. Plan ahead and prepare meal plans and shopping lists, bring a supply of items enriched with vitamins and nutrients such as drink mixes or bars for use in extreme cases	1

Stolen Gear	2	4	Ensure things are properly stored to help deter wandering hands. When in populated areas avoid leaving gear unattended, consider carrying a lock for boats, and a small pack for valuable when leaving boats unattended.	1
<b>Paddling</b>				
broken paddle	2	5	Bring a spare paddle, and materials such as hose clamps and adhesive cement to repair minor damage	1
PFD Breaks/Tears	2	4	Bring equipment to fix minor tears (sewing kit, duct tape, patches etc). Have contacts at kayaking companies to obtain new equipment if necessary	1
Towline breaks	2	4	Have 2 toelines between the two of us. Have the ability to fix minor damage, know how to tie two lines together using the double fisherman's knot	1
Blisters or other minor injury	5	3	Avoid gripping paddle too tightly. Bring a first aid kit and know how to use it. Make sure it is well stocked with supplies before departing	1
Capsize	5	3	Practice rescues, especially in rough water. Avoid dangerous and rough water conditions when possible, paddle in a tight group, close to each other in order to minimize rescue time, especially when in areas with breaking waves	1
Entrapment in kayak	2	5	Know how to wet exit, wear clothing and footwear that minimize entrapment issues, avoid loose lines	1
Head injury	2	5	Wear a helmet when in surf or near rocks, avoid dumping surf when possible	1

Spinal Injury	2	5	Avoid dumping surf, and rocks whenever possible, have the ability to contact emergency services, know how to stabilize a patient and set injuries	1
Dislocations, and other major injuries	2	5	Avoid dumping surf, and rocks whenever possible, have the ability to contact emergency services, know how to stabilize a patient and set injuries	1
minor damage to boat	3	2	Bring a repair kit to fix minor holes or faults with equipment, and know how to fix it	1
Major damage to boat- boat is not sea worthy	2	5	Have contacts with local kayak companies so a new boat can be obtained, avoid conditions that would severely damage a boat such as dumping surf, rocks, etc	1
lost or broken hatch cover	2	4	Bring a spare hatch cover or something that can be used to improvise a hatch cover	1
Big Ocean Swell	4	3	Have alternative routes of travel where the water won't be as rough- Intracoastal waterway. Have the flexibility to postpone travel by a day or two, Follow weather for an extended period of time prior to departing to record any patterns. Have to ability to paddle at night if that is when conditions are best	1
Strong Winds	4	3	Have alternative routes of travel where the water won't be as rough- Intracoastal waterway. Have the flexibility to postpone travel by a day or two. Have the ability to paddle at night if that is when conditions are best.	1

Paddling against or across strong currents	3	4	Gather data on tides and currents and know how to interpret this data. Know how to use the 50/90 rule and rule of thirds, and keep a schedule of where we should be on the water at all times	1
Getting lost	3	4	Bring nautical charts, compass, GPS, and know how to use them. Contact local agencies for navigation advice. Prepare charts ahead of time with important bearings, distances, etc.	1
Inadequate skill for conditions	2	4	Have alternate routes in mind (Intracoastal waterway), that involve less exposure, and be flexible with travel distances	1
Partner unable to attend expedition	3	5	Have an alternate route that can be executed- intracoastal waterway- that involves less demanding conditions, and maybe shorter distances, consider alternate dates so partner could attend, consider having a back-up partner	1
<b>Environmental</b>				
Mosquitos	5	2	Bring insect repellent, and a bug hat	1
Ticks	4	2	Wear long pants and socks while in areas with long grass	1
Sand Fleas	4	2	Wear long clothing to minimize impact and annoyance, bring bug spray	1
Snakes	2	5	Be able to identify dangerous snake species. Bring a snake bit kit and know how to use it. Be alert in wooded areas. Have the ability to contact emergency services for outside help	2
Poison Ivy and other poisonous plants (sumac, etc.)	3	3	Know what it looks like and wear clothing that covers skin when in wooded areas	1

Sharks	2	4	Be alert when paddling, avoid being in or on the water at dusk and dawn when sharks are most active	2
Rain	5	2	Bring a rainfly for the tent, ensure things are properly stored to avoid getting them wet, listen to forecasts regularly	1
Waterspout	1	3	Listen to weather forecasts frequently. Stay Alert, be able to asses changes in the weather	1
Thunderstorms (lightning)	4	4	Listen to the forecast everyday and frequently throughout the day, be prepared to get off the water and take shelter if need be. Be able to asses changes in the weather while on the water	1
Hurricanes	1	5	Plan the trip for as early on in the summer as possible. Listen to forecasts frequently	1
Sunburn	4	4	Wear sunscreen and protective clothing such as a hat, sunglasses, or long sleeve paddle shirt if needed	1
dehydration	3	5	Drink plenty and regularly, ensure that we bring enough water to be able to stay hydrated. Bring along water flavorings such as "emergenc" and tang to encourage hydration	1
heat stroke	2	5	Stay hydrated and take breaks in shade, take swimming breaks, leave enough time to get places so we are not over working and over heating	1
Hypothermia	2	4	Be prepared for all sorts of conditions. Have appropriate clothing, paddling gear, and sleeping bag	1
Animals getting into food	3	3	Keep food and garbage stored properly in kayaks or other containers	1

## Crux Points & Go/No Go

Throughout the expedition process, events or situations arise that will require decisions as to whether or not to go forward with the original plan of the expedition. These events could happen prior to departing for the expedition, en-route to the expedition location, or during the expedition itself. Due to the nature of sea kayak touring the large percentage of these “crux-points” will be on the water when approaching an exposed location such as an open crossing or headland. However, there are an infinite number of situations, which could be presented to a paddler during a week of traveling on the water and camping in a remote setting.

This decision making process occurs almost subconsciously in the minds of those experiencing the conditions and executing the decisions. It is during these points of the trip that analyzing the situation at hand and the current conditions will be of greatest importance. Those familiar with the expedition process will sympathize with the constant internal questioning that occurs while on such an expedition. “To go or not to go, that is the question”. Having a written plan, such as this one, listing when and under what circumstances I will change or alter my plans will make answering that question, of whether or not to go, much easier when in the field.

## Crux Points:

### Crossings:

Open water crossings can be one of the most challenging aspects of kayak touring. Not only are they physically draining but can also be psychologically draining as well. We will make all attempts to undertake these crossings with tidal assistance or during slack tide. Paddling against tidal currents, even though it would be possible to do in this area, due to the relatively mild currents, it is not something we would really want to do. Paddling against a tide, expends extra time and energy that can be vital in an expedition of this nature. Wind and other weather conditions will also be taken into consideration when deciding whether or not to complete a crossing.

### Portsmouth Island to Ocracoke Island: Ocracoke Inlet 1.2 nautical miles

- Max Flood- 1.7 kts
- Max Ebb- 2.4 kts
- This crossing would ideally be completed during the slack tide. It would want to be avoided during both max flood and max ebb tides. However, it could be completed partially on either the end of the flood or the end of the ebb tides. An extended break on Ocracoke Island could be taken to allow for more ideal tidal conditions. We will not complete this crossing if winds exceed 20 knots.

### Crossing through Beaufort Inlet

- Max Flood- 0.3 kts
- Max Ebb- 1.4 kts
- This crossing would ideally be completed during the flood tide if heading north and ebb tide if heading south. However, it could also be completed against a tide by hugging the shoreline when rounding Shackleford point. Completing this section of the trip with wind against tide would be especially challenging. We will not complete this crossing if winds exceed 20 knots.

### Shackleford Banks to Mainland: Back Sound 2.4 nautical miles

- Max Flood- 2.0 kts
- Max Ebb- 1.8 kts
- We will launch from Shackleford Banks on the flood tide if heading north, the ebb tide if heading south, or slack tide. We will avoid paddling against a tide. Should we arrive during the wrong tide, we will wait for the tide to slow before launching. The crossing will not be completed if winds exceed 20 knots.

### Cape Lookout Headland:

Rounding the point of Cape Lookout on the ocean side could mean encountering some heavy surf and wind swept waves due to the many shoals that lie just off its shores. However, on a relatively calm day it could provide for some exciting rough water paddling, and some spectacular views. Being able to paddle around the point could be a possible highlight of the trip. However, if the forecast for the day calls for strong winds in excess of 20 knots from the east, south, or west, we will take an alternate inside route through Core Sound instead. This route should provide for protection from winds and waves and would be a safer passage than rounding the exposed Lookout Point.

### Landing and launching in surf:

Surf launches and landings can be extremely dangerous in big surf, especially when paddling boats loaded with gear. We will set a maximum of five-foot surf for launching and landing in ocean conditions. On those days when the swell exceeds five feet we will take the alternative option to paddle in the sound, which is generally more protected.

### Go/No Go Decisions

#### Partner unable to attend:

If my planned partner is unable to attend the expedition, and I am given at least 3 weeks advanced notice, I will contact a possible back-up partner. If this back-up partner is also unable to attend the expedition, I will complete the expedition as a solo trip but with revisions to the planned route.

#### Weather Predications Prior to Departure:

Should weather forecasts predict a major severe storm system to pass through the area during the timeframe of the expedition, there is a possibility that the trip could be postponed or cancelled. If the track of an early season hurricane takes it directly over the Outer Banks I would most likely decide to postpone the expedition until a later date. However, if the forecast looks relatively promising and only mild to moderate storms such as rainstorms or afternoon thunderstorms are predicted the trip would still go on as planned. Nonetheless, forecasts will be monitored continuously throughout the duration of the trip. Changes in the forecast, could affect the travel route and the overall success of the trip.

#### Obtaining Gear Prior to Departure:

All gear and supplies for the expedition will be obtained prior to departing on the trip, or the expedition will not take place. If one or two items are missing,

arrangements will have to be in place prior to departing on how and where to obtain these missing items once at the expedition site.

#### Transportation to expedition location:

Should the primary transportation method (car) to the expedition location fail, we will try to obtain an alternative method of transportation such as another car or a plane ticket if time permits. Should all attempts to find transportation down to the expedition location fail, the only other choice would be to postpone the expedition until a later date when transportation can be obtained.

#### Weather Predictions during the Expedition:

- **Strong Winds:** Strong winds can create large waves and treacherous seas especially when blowing against the tide. In winds under 20 knots, we will make all attempts to cover approximately 15 nautical miles a day. Given the numerous landing and camping spots along Cape Lookout, covering at least a few miles on a windy day should be quite possible. However, on days with winds in excess of 20 knots paddling will not take place unless a route sheltered from the wind can be taken.
- **Thunderstorms:** Paddling will not take place during a thunderstorm. We will take shelter on land with the first sign of a thunderstorm
- If a Hurricane or Tropical Storm develops and is expected to pass over the region during the length of the trip, we will call off the expedition, and take shelter on the mainland. We will arrange transportation through one of the many private ferry services that serve the Cape Lookout shoreline.

### Reaching the Final Destination:

- Due to the short crossing back to the mainland and availability of transportation back to our put in sight, the ideal ending location for the expedition is the city of Beaufort or Ocracoke. However, if we are unable to reach our final destination within the allotted amount of time, due to delays, the trip will either have to be extended, or the ending destination changed. This will require arranging a private ferry to pick us up and transport us back to the mainland. We will carry phone numbers for private ferry services that access the Islands of Cape Lookout with us on the expedition.

## Contingency Plans

Contingency planning is an important aspect of every expedition. If the expedition cannot be carried out entirely as it was originally planned, a set of back up plans needs to be in place. Reasons for these changes could range from the loss of a partner either during or prior to departing, to extremely inclement weather. In reality a good set of contingency plans should contain all the same information found in your Plan A. If you find yourself in a situation where Plan A, the plan you've put months of effort into developing, doesn't work, chances are an even less fully developed Plan B, will also fail. However, in an effort to prevent myself from becoming repetitive, I will outline in the following, a few of the instances that would require major contingency planning, should they occur.

### Severe or extreme weather conditions:

Traveling on an exposed section of the Atlantic coast means that our route is extremely susceptible to changes in weather and ocean conditions. A stalled low-pressure system, early season hurricane, or consistently strong wind could cause our original plan of traveling in the ocean to become impossible. A strong wind could whip up large waves that make it too hazardous to launch and land a kayak through dumping surf. Persistent severe weather with lightning and strong winds could also make it too hazardous to be on the water all together.

If conditions become too hazardous to travel in an ocean setting our contingency plans will involve a route through the sounds that compose the Intracoastal Waterway. These sounds consisting of mainly Banks Sound, Core

Sound, and Pamlico Sound, should provide more sheltered waters in the event that winds and high waves prevent paddling in the ocean. Because these sounds run the entire length of the Outer Banks, it is quite possible to complete the entire trip, by paddling through solely these sheltered waters, should conditions require us to do so.

Severe weather such as hurricanes or strong lightning producing, low-pressure systems would be harder to deal with. Given how highly developed the majority of the Atlantic coast has become, changing the location of the trip to avoid severe weather conditions would be difficult. There are few places left along the eastern seaboard that would permit a weeklong kayaking expedition in a primitive setting. In this case it is more likely that we would postpone the trip for a week or two to allow for conditions to clear and a more favorable weather system to move in.

Loss of a partner:

Another potential situation that could develop that would fundamentally alter the plan of the expedition would be the loss of a partner. This could either occur prior to departing on the expedition or during the expedition itself. Depending on when it occurs would affect the way in which I respond.

If my designated partner decides that for some reason they can no longer attend the expedition prior to departing I would attempt to complete the expedition on my own. However, completing the expedition as a solo trip would require altering the planned route. I would not feel comfortable paddling in an ocean environment on my own and would instead opt for the more sheltered route provided by the Intracoastal Waterway.

If my partner becomes ill or injured during the expedition and is incapable of paddling, we will both leave the expedition site and seek any needed medical attention. It would be unfair to my partner to continue paddling by myself while she is incapable of doing so.

## Compliance with Senior Expedition Guidelines:

### **1. Follow Leave No Trace Ethics** (From [www.LNT.org](http://www.LNT.org))

#### Plan Ahead and Prepare:

Planning and preparation is probably the most labor intensive and time-consuming of the LNT ethics. Large amounts of planning go into organizing any expedition, including this one. Prior to departing we will have completed risk assessments and emergency plans, as well as contingency plans should any of the original plans become impossible to carry out. I have also researched the local area to ensure that vulnerable habitats such as nesting areas will be avoided. We will obtain any necessary camping permits in advance to avoid having to camp in undesignated areas or becoming stranded without a location to spend the night. While early summer is a popular time for tourists in the Outer Banks, we will be traveling in a small group (group of 2) to ensure that we do not contribute to any overwhelming impact on our surroundings. To minimize wastes and garbage we will have to carry with us, we will repackage our food into zip-lock bags prior to departing. We will also carry appropriate equipment, including a cooking stove and water carrying devices to minimize any impact on the environment.

#### Travel and Camp on Durable surfaces:

The large majority of our traveling will be done on the water, which is quick to recover from the small impact that our kayaks will create.

However, while on the water we will make a special effort to avoid disturbing sea birds and marine mammals, and will ensure that no garbage or refuse is lost to the sea while traveling or camping. We will be camping on the barrier islands that compose the Outer Banks. Much of the shoreline in Cape Lookout National Seashore is open to primitive camping and it is here that we will be doing the majority of our camping. Cape Hatteras National Seashore is more developed than Cape Lookout and has four established National Park Service campgrounds that will serve as possible camping venues. When primitive camping we will camp on durable surfaces such as sand or gravel (places devoid of vegetation). In more pristine areas we will try to camp in the area between the highest winter storm tide level, and the current high tide level. If there is not sufficient space on the ocean beach or this area is inaccessible, we will camp on the interior dunes in areas that will pose the smallest impact to the fragile dune grasses that help prevent dune erosion. When traveling on land we will use designated trails or those most traveled in higher use areas, and distribute our foot traffic over a larger area in more pristine locations.

Dispose of Waste Properly:

We will pack out all garbage with us. This includes both cooking garbage and human waste. Human waste will be properly disposed of in cat holes, wag bags, or in the ocean itself, and all hygiene products will be packed out. All washing will occur 200 feet from any fresh water sources. Because

we will be camped on the ocean the majority of the time, issues associated with washing are not as prominent as they would be if we were camped on a fresh water body. The ocean can handle and adequately break down small amounts of biodegradable organic wastes. Proper food planning prior to the expedition will help prevent leftovers from cooking and repackaging food will help reduce the amount of garbage that has to be packed out.

#### Leave what you Find:

The Outer Banks are home to such historic locations as the Wright Brothers Memorial, the Roanoke Island Historic Site, and half a dozen historic lighthouses. When visiting these areas we will leave the land and its artifacts as we find them. Because the entire coastline is a part of either Cape Lookout or Cape Hatteras National Seashore the land that we travel and camp upon is protected and needs to be respected. We will leave the areas we visit as clean or cleaner than when we arrived and will collect natural souvenirs, such as rocks or shells, sparingly, ensuring to leave enough of what we find to be explored and gazed upon by the next visitors that follow in our footsteps.

#### Minimize Campfire Impacts:

Since we will be doing all our cooking on a camping stove we do not plan on having any fires. A fire will only be used in the case of an emergency for warmth, signaling for help, or cooking purposes, should our stove and

backup stove both become inoperable. If we do have to have a campfire it would be done in a designated fire ring or pit if possible or a confined, debris-free area. Any fires that we would have would be small and extinguished completely when finished.

#### Respect Wildlife:

The waters offshore of the Outer Banks are teeming with wildlife. Large marine mammals such as dolphins, sharks, and sea turtles, all call the waters off the Outer Banks home. During our travels we will take precautions to avoid disturbing these creatures as well as their smaller relatives. If we do encounter an animal on the water, we will observe it from a distance and give it enough space to avoid altering its behavior. We will give the same respect to the many varieties of birds and land dwelling animals that inhabit the area. This holds especially true for the islands' wild pony population and the nesting sea turtle and bird populations. We will not approach wild pony populations. Instead we will observe them from a distance. When choosing a campsite for the evening we will be especially mindful of species such as loggerhead sea turtles, terns, egrets, black skimmers, herons, and piping plovers, all of which nest on the islands sandy shores during the summer months. We will respect, and not enter, any areas closed for nesting season.

### Be Considerate of Other Visitors:

The Outer Banks is a popular place for tourists during the summer months. We want to ensure that their visit to the Outer Banks is just as enjoyable as ours and to do so we will take several precautions. We will respect other visitors by traveling in a small group of two individuals and we will camp away from other campers whenever possible to allow them to have the wilderness experience they came for. We will avoid large amounts of brightly colored equipment, except for that used to attract attention in emergencies, to avoid becoming an eyesore.

One of the attractions that draws people to this area is the ocean environment and the marine ecosystems that surround the islands. It is not only a great place to kayak but is also popular for such activities as fishing, surfing, swimming, and recreational boating. During our travels we will ensure that we take steps to avoid interfering with these other water users by giving them space whenever possible, allowing us to avoid disturbing their activities.

## **2. Follow Minimalist Equipment Ethics**

Our equipment needs will consist of the things that we need to be able to kayak and camp safely. This is not a trip for creature comforts. We will be limited by the amount of space we have in our kayaks. We will be bringing what would be considered the essentials. A complete list of personal and group equipment that we will be bringing on the expedition can be found in Appendix C.

### **3. Be Unsupported**

We will not receive major assistance for this trip, neither during the planning process prior to the expedition nor during the trip itself.

However, local kayak outfitters or those familiar with the area may be contacted during the planning phase of the expedition. These people can be great resources with their local knowledge and their ability to either confirm or reject research obtained from other sources. Local outfitters may also be used to perform a car shuttle at the beginning and end of the expedition. Once the expedition commences we will be traveling in a relatively remote area, and will therefore not be within immediate reach of other people or towns. Proper packing, having the right equipment, and sufficient skills will be essential to executing a self-contained expedition.

### **4. Advance your skills over a span of time sufficient to establish self-reliance**

The skills that I will work on and advance prior to departing on my expedition will be my planning skills, personal paddling skills, camping skills, and leadership skills. I will do the majority of the planning for the trip. I have never planned an expedition totally on my own before, so this will be a new, challenging, and educational experience. I will also have to work on my personal paddling skills, especially in the realm of speed and endurance. This will ensure that I am able to complete in excess of 15 nautical miles a day for a week, while still having a reserve for safety and

any possible emergencies. I will get out paddling as often as possible during the fall and spring paddling season and be sure to put in longer and more strenuous hours. During my expedition we will be primitive camping on the barrier islands following leave no trace guidelines. This I have done before but will continue to practice prior to the expedition to ensure my camping skills are recent and up to date. During the expedition my partner and I will work as a team at times, but the success and leadership during it rests on my shoulders.

It is my hope that this expedition will be the culmination of all the skills I have acquired through the expeditionary studies department. From this perspective it is a final step in the many steps that have led up to this point, but from a very separate perspective it is also a first step on the road to expeditionary independence. It is an opportunity for me to prove to myself and others that I am capable of planning and executing a self-contained expedition on my own. This hopefully will be the first of many similar expeditions and opportunity to begin developing my expeditionary resume.

**5. Be planned and executed by students, with minimum of guidance from others**

This expedition will be planned primarily by myself, with minimal assistance from other people. However, we will contact local kayaking outfitters such as *Barrier Island Kayaks* for their invaluable local knowledge. Obtaining information from those with first hand experiences

in the area is often the best and most reliable way to go about performing research on a topic. The majority of the research will be performed on my own, but these outfitters can provide either confirmation of or reject the findings of my research, and provide me with information that cannot be found in other online or written resources. The expedition itself will be executed without assistance from a guide or other more experienced paddler familiar with the area. However, a list of local contacts (Appendix E) will be brought on the expedition in the case of an emergency, should we need assistance or a quick way off the islands.

**6. Be of sufficient difficulty to make failure possible but also sufficiently flexible to avoid dangers when possible.**

This expedition is of a moderately high difficulty with several points of possible failure. The planned route has us paddling in excess of 15 nautical miles a day. Inclement weather causing strong winds, high surf, or severe weather such as thunderstorms, is a daily possibility. Paddling in an ocean environment comes with inherent risks that become magnified in inclement weather. Any of these conditions, should they develop could cause a delay in travel or force a change in route. Completing any open crossing in high winds, large waves, or during a lightning storm is unadvisable. There are several relatively short two to three mile crossings planned during this expedition. While none are of an extreme length they are long enough that should conditions arise that prevent a crossing, changes in the original plan would have to be made. The risks associated

with landing and launching a fully loaded kayak in ocean conditions also grows incrementally as wave heights increase. Conditions will be monitored closely throughout the expedition in order to accurately assess current risks and to be able to properly plan the next leg of the journey.

However, thanks to the natural landscape of the North Carolina coast, it is possible to take more than one route. While a route following the oceanfront would be the most direct and provide for the easiest access to camping locations, the Intracoastal Waterway could provide a more sheltered route in the case of inclement weather. This route, sheltered from wind and swell by the barrier islands, could provide significantly calmer waters, but would make finding a campsite in the evening harder due to the amount of marsh that stretches the coast on this inside passage. I have also scheduled in an extra day during the expedition should conditions preventing travel cause us to have to spend a double night somewhere. I will also arrange contacts in the area, should we have to cut the trip short or change our take out location.

#### **7. Not take place in areas with which you are familiar**

I have never paddled in North Carolina and am therefore not personally familiar with the paddling environment there.

**8. Take place outside a 100-mile exclusion zone around Plattsburgh and your family residence**

North Carolina is well outside the 100-mile exclusion zone of Plattsburgh and Long Island New York.

**9. Be justified based on the nature and explanation of identified outcomes**

I have developed prior to departing on my expedition, a series of objectives and goals, which I hope to achieve during the trip. The overarching goal of this trip will be to complete a self-contained expedition along a primitive section of the North Carolina Coast. However, there will be several more specific objectives that I hope to achieve during the expedition as well.

These include camping on Shackleford Island, paddling near and visiting the Ocracoke and Cape Lookout lighthouses, spending some time in historic Ocracoke and the abandoned town of Portsmouth, and hopefully finding some good conditions for surfing. Having these goals and objectives laid out prior to departing on the expedition will allow me to better analyze the trips overall success following the completion of the expedition. Should we complete all or most of these goals and objectives then I can confidently say the expedition was a success. However, should we fail, for some reason, to meet most of these objectives, the overall success of the trip will become compromised.

#### **10. Add value to your profile as a member of the adventure industry**

Being able to plan and successfully complete an extended expedition of this magnitude will be of great advantage to my adventure-based resume. Any employer will want to see that I am cable of working independently and of executing and completing a goal successfully and safely. A trip like this will emphasize my planning and research skills, my personal paddling skills, my ability to camp following leave no trace guidelines, and my confidence to work independently and be self-sufficient. It will also give emphasis to my leadership skills, and my ability to execute a trip with another paddler of equal ability, without major guidance from a more advanced paddler.

#### **11. Be completed with a publication or presentation**

Following my expedition I plan to return to Plattsburgh to complete my senior year. During the Fall 2010 semester I will prepare a slideshow and presentation to be presented to current expeditionary studies students and the student body at large. It will include photos taken during the expedition and a storyline covering planning and preparation, as well as highlights and key learning points from the trip. This presentation will really allow me to reflect upon the learning points of my expedition and ensure that I gain the most from the experience.

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## Appendix A: Budget

### Purchase of Remaining Equipment: \$400

- Crash helmet- \$60
- Splash Jacket- \$80
- Deck Compass- \$40
- VHF Radio- \$60
- Nautical Charts of the area- \$50
- Camping Stove- \$80
- Extra Long Tent Stakes- \$15
- Camping Fuel- \$15

### Travel Expenses: \$345

- Gas- \$150
- Accommodations for overnight stays on way down and back up: \$120
- Travel Food: \$75

### Food: \$112

- \$8 a day per person
  - \$16 a day X 7 days= \$112

### Camping accommodations: \$60

- Free permits for camping on Cape Lookout National Seashore
- Cape Hatteras NPS Campgrounds:
  - \$20 a night X up to 3 nights= \$60

### Miscellaneous Expenses:

- Small items such as batteries, lighters, travel notebook, etc: \$40
- A meal or two while not camping at the beginning or end of the trip: \$75

Total: Approximately \$1032

## Appendix B: Meal Plans

- Measurement in parentheses is the serving size
- Nutritional information following the item is per serving size
- Prices listed to the right indicate the number of items that will be purchased and the price for that amount
- Categories defined by \_\_\_\_\_ indicate that item was already purchased somewhere else in the list.
- Prices and Nutritional Information from [www.peapod.com](http://www.peapod.com)

### Breakfast:

- Quaker Oats Oatmeal packet: (1 packet) 2 boxes= \$6.98
  - 165 calories per packet
  - 4 grams of protein
  - 12 grams of sugars
  - \$3.49 for a box of 10 packets
- Fiber One Oats and Chocolate Chewy Bars: (1 bar) 3 boxes= \$9.00
  - 140 Calories per bar
  - 9 grams of Fiber
  - 2 grams of Protein
  - \$3.00 a box- 5 bars per box

### On-Water Snacks:

- Fiber One Oats and Chocolate Chewy Bars: (1 bar) \_\_\_\_\_
  - 140 Calories per bar
  - 9 grams of Fiber
  - 2 grams of Protein
  - \$3.00 a box- 5 bars per box
- Milky Way fun size bars (5 pieces) 1 bag= \$3.69
  - 190 calories
  - 7 grams of fat
  - 30 grams of carbohydrates
  - 26 grams of sugars
  - 2 grams of protein
  - \$3.69 for 18 mini bars

### On-Land Snacks:

- Tribe Classic Hummus: (2 tbsp) 1 tub= \$4.99
  - 50 calories
  - 3.5 grams of fat
  - 130 mg of sodium
  - 2 grams protein
  - \$4.99 for a 16 oz tub

- Trail Mix (placed into a Ziploc Bag)
  - Planter Cocktail Peanuts (35 pieces) 1 12 oz can= \$1.99
    - 170 calories
    - 14 grams of fat
    - 115 mg of sodium
    - 7 grams of protein
    - \$1.99 for a 12 oz can
  - M & Ms (0.25 cup) 1 bag= \$3.00
    - 210 calories
    - 9 grams of fat
    - 30 grams of carbohydrate
    - 27 grams of sugar
    - 2 grams of protein
    - \$3.00 for a 12.6 oz bag
  - Stop & Shop California Sun dried Raisins (0.25 cup) 1 can= \$3.89
    - 130 calories
    - 310 grams of potassium
    - 31 grams carbohydrates
    - \$3.89 for a 24 oz can

Lunch:

- Regular Jiff Extra Crunch Peanut Butter: (2 tbsp) 1 jar= \$2.50
  - 190 Calories
  - 16 grams of fat
  - 7 grams of carbohydrates
  - 8 grams of protein
  - \$2.50 for an 8 oz. jar
- Stop & Shop Sharp Cheddar Cheese: (28 grams) 3 blocks= \$14.37
  - 110 calories
  - 9 grams of fat
  - 7 grams of protein
  - \$4.79 for a 16 oz block
- Bumble Bee Tuna Pouch: (2.0oz) 4 pouches= \$10.00
  - 60 calories
  - 15 grams protein
  - \$2.50 for a 5 oz package
- Red delicious apples: (1 apple) 10 apples= \$5.90
  - 90 calories
  - 23.8 grams carbohydrates
  - 3.4 grams fiber
  - \$0.59 per apple
- 6 inch Fajita Flour Toritillas: (1 tortilla) 3 packages= \$6.00
  - 110 calories
  - 3 grams of fat
  - 18 grams carbohydrates
  - 2 grams of protein
  - \$2.00 for a package of 8

- Stop and Shop English Muffins (1 muffin) 1 package= \$2.29
  - 130 calories
  - 26 grams carbohydrates
  - 6 grams sugar
  - 5 grams protein
  - \$ 2.29 per package of 12

Dinner:

- Near East Couscous Mediterranean Curry (2 oz.) 1 box= \$2.29
  - 190 calories
  - 550 mg of sodium
  - 40 grams carbohydrates
  - 8 grams protein
  - \$2.29 for a 5.7 oz. box
- Vegetable Stir Fry:
  - Fresh Carrots (1 carrot) 1 carrot= \$1.49
    - 35 calories
    - 1 gram protein
    - \$1.49 per carrot
  - Zuchinni ( 1 zuchinni) 1 zuchinni= \$0.79
    - 31.4 calories
    - 513.5 grams potassium
    - 6.6 grams carbohydrates
    - 2.4 grams protein
    - \$0.79 each
  - Red Onions (1 Onion) 1 Onion= \$0.69
    - 44 calories
    - 160.6 grams potassium
    - 10.3 grams carbohydrates
    - \$0.69 each
  - Minute Brand Instant White Rice (0.5 cup) 1 box = \$3.79
    - 200 calories
    - 45 grams carbohydrates
    - 5 grams protein
    - \$3.79 for a 28 oz box
  - Kikkoman Stir-Fry Seasoning Mix (1 tbsp) 1 packet= \$0.99
    - 30 calories
    - 680 mg sodium
    - 1 gram protein
    - \$0.99 for a 1 oz packet
- Tuna Quesadillas:
  - 6 inch Fajita Flour Toritillas: (1 tortilla) \_\_\_\_\_
    - 110 calories
    - 3 grams of fat
    - 18 grams carbohydrates
    - 2 grams of protein
    - \$2.00 for a package of 8

- Stop & Shop Sharp Cheddar Cheese: (28 grams)
  - 110 calories
  - 9 grams of fat
  - 7 grams of protein
  - \$4.79 for a 16 oz block
- Bumble Bee Tuna Pouch: (2.00z)
  - 60 calories
  - 15 grams protein
  - \$2.50 for a 5 oz package
- Rice and Chili:
  - Minute Brand Instant White Rice (0.5 cup)
    - 200 calories
    - 45 grams carbohydrates
    - 5 grams protein
    - \$3.79 for a 28 oz box
  - Hormel Chili with beans: (1 cup)
    - 260 calories
    - 7 grams of fat
    - 1200 mg of sodium
    - 30 mg of cholesterol
    - 33 grams of carbohydrate
    - 16 grams of protein
    - \$2.00 for a 15 oz can
 1 can = \$2.00
- White rice and canned chicken curry:
  - Minute Brand Instant White Rice:
    - 200 calories
    - 45 grams carbohydrates
    - 5 grams protein
    - \$3.79 for a 28 oz box
  - Canned Chicken ( 2 oz)
    - 50 calories
    - 270 mg of sodium
    - 10 grams protein
    - \$2.29 for a 4.5 oz can
 1 can = \$2.29
  - McCormack Curry Spice
    - \$4.99 for a 1 oz bottle
 1 bottle= \$4.99
- Bean Burritos
  - Ortega Refried Beans (0.5 cup)
    - 150 calories
    - 570 mg of sodium
    - 25 grams of carbohydrate
    - 8 grams protein
    - \$1.50 for a 16 oz can
 1 can= \$1.50

- 6 inch Fajita Flour Tortillas: (1 tortilla) \_\_\_\_\_
  - 110 calories
  - 3 grams of fat
  - 18 grams carbohydrates
  - 2 grams of protein
  - \$2.00 for a package of 8
- Del Monte Diced Tomatoes (125 ml) 1 package= \$2.50
  - 20 calories
  - 10 mg of sodium
  - 4 grams carbohydrates
  - 1 gram protein
  - \$2.50 for a 26.4 oz. package
- Red Onion (1 Onion) \_\_\_\_\_
  - 44 calories
  - 160.6 grams potassium
  - 10.3 grams carbohydrates
  - \$0.69 each
- Stop & Shop Sharp Cheddar Cheese: (28 grams)
  - \_\_\_\_\_
  - 110 calories
  - 9 grams of fat
  - 7 grams of protein
  - \$4.79 for a 16 oz block

Total Price: \$97.92

Average Breakfast + Lunch+ Snack Calorie Intake: 1,725 calories  
 Average Dinner Calorie Intake: 325 calories  
 Average Daily Calorie Total: 2050 calories

### Appendix C: Personal and Group Equipment Lists

**Personal Equipment:** Every team member in the group should have the following items:

- Kayaking:
  - Sea Kayak
  - Paddle and backup paddle\*
  - PFD
  - Spray Skirt
  - Towline
  - Crash Helmet
  - Bathing suit
  - Paddle Shorts
  - Splash Jacket- short sleeve or long sleeve
  - Paddle Top- Short sleeve or long sleeve
  - Paddle Shoes
  - Hand Compass
  - Deck Compass
  - Strobe light
  - Chart of the area\*
  - Personal First Aid Kit
  - Personal Fix Equipment Kit
  
- Camping
  - Warm weather Sleeping bag
  - Sleeping pad
  - Bowl and Spoon (or similar)
  - Nalgene water bottle
  - Personal Snacks
  
- Personal clothing/items:
  - 2 Pairs of synthetic pants that convert to shorts
  - Light synthetic long sleeve shirt
  - Synthetic short sleeve shirt
  - A light fleece layer
  - Rain tops and bottoms
  - Sun Hat
  - Sunglasses
  - Bug Hat
  - 2-3 pairs underwear
  - 2 Pairs socks
  - Camp shoes
  - Small camp towel
  - Personal Hygiene Items
  - Small waterproof notebook and pen

\*Indicates an item that still needs to be purchased.

**Group Equipment:** These items will then be evenly distributed among group members.

- Kayaking:
  - Emergency Shelter- bothy bag
  - Charts and Chart book\*
  - VHF Marine Radio
- Camping
  - Two person tent and footprint
    - Extra long tent stakes\*
  - Camping stove
    - Cookset for stove
    - Cooking Spoon
  - Camp Fuel
  - Lighters
  - Main supply of Food
  - Water bags or other water carrying devices
  - Wag Bags
- Misc.
  - Sunblock
  - BUG SPRAY
  - Camera

\* Indicates an item that still needs to be purchased

## Appendix D: Maps and Charts

### **Land Maps:**

- Rand McNally and Company. *Rand McNally Road Atlas of the United States 2010 edition*. US: Rand McNally and Company, 2009. Print.
- North Carolina Department of Transportation. *North Carolina 2009-10 State Transportation Map*. Raleigh, NC: North Carolina Department of Transportation Communications Office, 2009. Print.

### **Nautical Charts:**

- **National Oceanic and Atmospheric Administration Nautical Charts:**

National Oceanic and Atmospheric Administration. *Chart 11544: Portsmouth Island to Beaufort, Including Cape Lookout Shoals*. Washington, D.C.: National Ocean Service Coast Survey, 2005. Print.

National Oceanic and Atmospheric Administration. *Chart 11545: Beaufort Inlet and Part of Core Sound; Lookout Bight*. Washington, D.C.: National Ocean Service Coast Survey, 2008. Print.

National Oceanic and Atmospheric Administration. *Chart 11555: Cape Hatteras; Wimble Shoals to Ocracoke Inlet*. Washington, D.C.: National Ocean Service Coast Survey, 2006. Print.

- **Other Charts:**  
Young, Claiborne. *Coastal Charts for Cruising Guide to Coastal North Carolina*. Gretna, LA: Pelican Publishing Company, 2002. Print.

## Appendix E: Map of Planned Route



(Figure 1: Planned Route of Travel along Cape Lookout NS. Additional time may be spent paddling Ocracoke Island if time permits. Background Map from National Park Service website <http://www.nps.gov/caloc/planyourvisit/maps.htm>)

## Appendix F: Support Structure and Emergency Contacts

- VHF Channel 16 for on water distress
- 911 for general emergencies on land
- Coast Guard:
  - Oregon Inlet- (252) 441-1685
  - Hatteras Inlet- (252) 986-2175
  - Hobucken- (252) 745-3131
  - Fort Macon- (252) 247-4570
  - Emerald Isle- (252) 354-2462
- Barrier Island Kayaks:
  - Lamar Hudgens:  
[lamarhudgens@yahoo.com](mailto:lamarhudgens@yahoo.com)  
252-393-6457
- Currituck County:
  - Emergency Medical Services- (252) 232-7746
  - Parks and Recreation- (252) 232-3007
  - Sheriff's Office- (252) 232-3771
- Dare County:
  - Recreation Services- (252) 475- 5910
  - Emergency Medical Services- (252) 475-5710
  - Tourist Bureau- 1-800-446-6262
- Kill Devil Hills:
  - Police- (252) 449 5337
- Manteo:
  - Fire Dept.- (252) 473-2300
  - Police- (252) 473-2069
- Ocracoke Emergency Management- (252) 928-1071
- NC Highway Patrol- (252) 441-7341
- NC Ferry Division Info- 1-800-BY-FERRY
- **Cape Lookout National Seashore:**
  - Park Headquarters Harkers Island: (252) 782-2250
  - 131 Charles Street Harkers Island, NC 28531
  - Fax- (252) 728-2160
- **Cape Hatteras National Seashore:**
  - Park Headquarters: (252) 473-2111
  - 1401 National Park Drive Manteo, NC 27954
  - Fax- (252) 473-2595
  - Campgrounds:
    - Oregon Inlet: Highway 12, Nags Head, NC 27954
    - Cape Point: 46700 Lighthouse Rd., Buxton, NC 27920
    - Frisco Campground: 53415 Billy Mitchell Rd., Frisco, NC 27936
    - Ocracoke Campground: (1-877-444-6777) 4352 Irvin Garrish Highway, Ocracoke, NC 27960

## Ferry Services

### **Cape Lookout:**

- North Core Banks
  - Ocracoke- Portsmouth Village  
Portsmouth Island Boat Tours- (252) 928-4361  
Passenger Ferry
  - Atlantic- Long Point  
Morris Marina Ferry Service- (252) 225-4261 or (877) 956-6568  
Passenger and Vehicle Ferry
- South Core Banks- Great Island
  - Davis- Great Island  
Davis Shore Ferry Service- (252) 729-3474  
Passenger and Vehicle Ferry
  - Cape Lookout- Great Island  
Cape Lookout Ferry Service- (252) 729-9751  
Passenger and Vehicle Ferry
- South Core Banks- Cape Lookout Lighthouse and Shackleford Banks
  - Harkers Island- South Core Banks  
Calico Jacks Ferry- (252) 728-3575  
Passenger Ferry
  - Harkers Island- South Core Banks  
Harkers Island Fishing Center- (252) 728-3907  
Passenger Ferry
  - Harkers Island- South Core Banks  
Cape Pointe Marina- (252) 728-6181  
Passenger Ferry
  - Harkers Island- South Core Banks  
Local Yokel- (252) 728-2759  
Passenger Ferry
  - Beaufort- South Core Banks  
Outer Banks Ferry Service- (252) 728-4129  
Passenger Ferry
- Shackleford Banks Only:
  - Morehead City- Shackleford Banks  
Waterfront Ferry Service- (252) 726-7678  
Passenger Ferry
  - Beaufort- Shackleford Banks  
Island Ferry Adventures- (252) 728-7555  
Passenger Ferry
  - Beaufort- Shackleford Banks  
Mystery Tours- (252) 728-7827  
Passenger Ferry

**Cape Hatteras:**

- Ocracoke:
  - Ocracoke South- Cedar Island-  
Office- (252) 928-1665  
Reservations- 1-800-293-3779  
Passenger and Vehicle Ferry
  - Ocracoke South- Swan Quarter  
Office- (252) 928-1665  
Reservations- 1-800-293-3779  
Passenger and Vehicle Ferry
  - Ocracoke North- Hatteras Island  
Free Passenger and Vehicle Ferry  
Office- (252) 928-1665  
Reservations- 1-800-293-3779