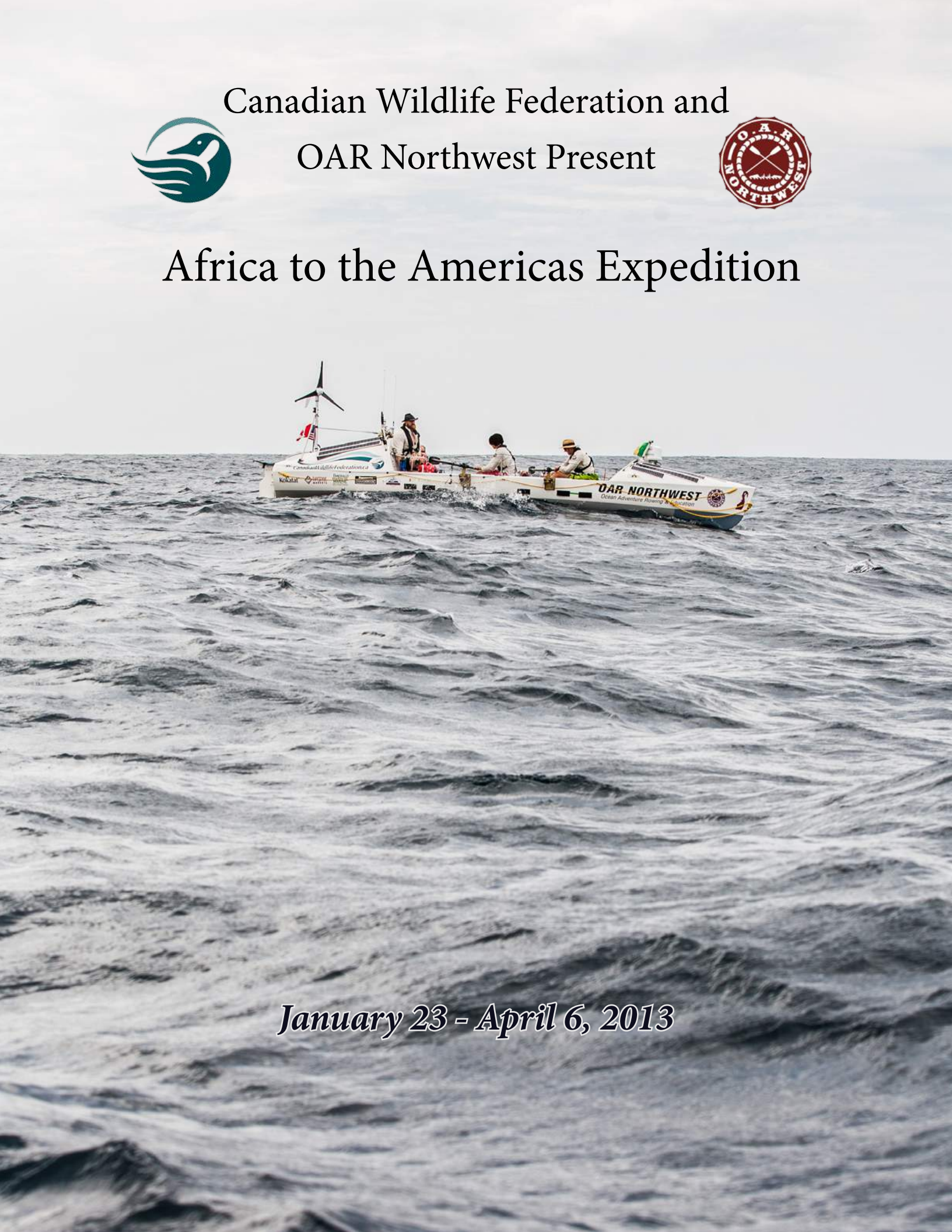
Canadian Wildlife Federation and

OAR Northwest Present

Africa to the Americas Expedition



January 23 - April 6, 2013

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Front cover:James Robert Hanssen (JRH) heads out to sea January 2013 - Photo Credit Erinn J. Hale Photography/CWF

Thank You for Believing in OAR Northwest!

Did you know a bright moon produces enough light to create a rainbow? That some squid can fly over 100 meters? And that tiny crabs float freely on beds of seaweed in the middle of the ocean? With your support we shared these observations, among many others, with students, scientists, and the public around the world. This is our trip report. It is not a summation of all that was accomplished but an outline of the entire project. Although the boat and crew are safely on shore, work continues with the science data and film footage. For the latest you can visit oarnorthwest.com or facebook.com/oarnorthwest.

In 2009, OAR Northwest embarked on another ocean row with a new crew and a new message. Instead of focusing our resources to create a fast rowboat, we aimed to observe, document and educate. Thousands of volunteer hours put in by the rowers and others (a few introduced here) made this expedition a reality.

Three years into this Atlantic journey, the Canadian Wildlife Federation (CWF) joined as Title Sponsor to create the CWF Africa to the Americas Expedition. We outfitted the boat with scientific instruments and satellite communications to turn our rowboat into a floating classroom and laboratory. Partnerships with academic and scientific institutions around the world allowed us to share what we observed, learned and collected with tens of thousands of students, live from a rowboat in the middle of the ocean for over seventy-three days. Your support allowed us to keep a team member on land to supervise our website, education program, social media engagement, and emergency management.

On April 6, 2013, we had our emergency. Our rowboat capsized and did not self-right. Using sea survival training and safety equipment kept our drama from turning into tragedy and the rowers were rescued in 12 hours. We left the rowboat behind.

Twenty-four hours later in San Juan, Puerto Rico, OAR Northwest and CWF handled the ensuing worldwide media ensuring the message of supporting conservation through science and education was not lost.

With CWF's support, OAR Northwest mounted a successful mission to retrieve the boat, then drifting 400 nautical miles north of Puerto Rico. The rowboat, tens of thousands of dollars of scientific equipment, raw scientific data and documentary film were all retrieved. Expect a Dateline NBC episode featuring OAR Northwest and footage from the ocean this winter. Thank you for being a part of our adventure!

Jordan Hanssen
OAR Northwest President
Captain - James Robert Hanssen

About OAR Northwest

Founded in 2005, OAR Northwest is a 501(c)(3) nonprofit adventure education and research organization, run primarily by volunteers, that uses adventure for scientific exploration and education. The crew for the CWF Africa to the Americas Expedition - a nearly 3,700 nautical mile mid-Atlantic crossing - included Canadian Olympic Gold Medalist Adam Kreek, Guinness World Record holder and North Atlantic Rowing Race veteran Jordan Hanssen, adventure filmmaker Markus Pukonen, and wilderness EMT Patrick Fleming. Shore operations, expedition logistics, media/public relations, and education program management were headed up by Greg Spooner, a physical therapist and ocean rowing veteran who was our only "sometimes paid" employee. Previous major expeditions include the 2006 North Atlantic Rowing Race by Jordan and Greg - 3,200 nautical miles in 72 days from New York City to Falmouth, England, without assistance, and a 2012 circumnavigation of Canada's Vancouver Island by Adam, Jordan, Greg, Markus and Rick Tarbill.

Expedition Summary

On January 23, 2013, Jordan Hanssen, Markus Pukonen, Patrick Fleming, and Adam Kreek set out from Dakar, Senegal, bound for Miami, Florida - over 3,700 nautical miles away - in the 29-foot long ocean rowboat James Robert Hanssen (JRH). This human-powered crossing of the Atlantic from continental Africa to continental North America would be a first-ever, potentially earning the JRH a Guinness World Record. But more importantly, the expedition sought to promote ocean conservation, provide remote education programs, and collect continuous ocean, atmospheric, and athlete data.

To accomplish these goals, the JRH was transformed into a scientific-and media-rich research vessel with onboard electrical energy sources consisting of solar panels and a wind turbine. That allowed a plethora of data collection instruments, satellite communications, high-resolution video and still cameras, computers, as well as modern navigation and safety equipment to be put onboard. Data was collected on the surrounding seawater and air (some aimed at studying ocean acidification), on the rowers' physiology and sleep (or lack thereof), and on the merits of psychological tools employed to keep working as a cohesive team under duress. This, in turn, was used to educate students around the world about the ocean through daily direct-to-classroom updates.

Transforming the JRH and its team happened through the collaborative efforts of a network of professionals and volunteers: marine systems specialists, scientists, educators, navigation experts, friends, relatives, and other fans. For 73 days the crew met or exceeded all its goals. They collected data, published their thoughts, observations, and photos in a daily blog, communicated with classrooms in Africa, USA, Canada and New Zealand, and filmed a documentary. All of that was done while navigating, solving unexpected technical challenges, combating debilitating seasickness, and rowing around the clock.

Team photo shoot for Outside Magazine, Lake Union, Seattle.
Peter Bohler photography

Quick Facts

• Over 66,659 unique visitors (137,972 total visits) from 182 countries experienced oarnorthwest.com video, audio, images and blog content sent live from the ocean;

• Eight weeks of daily weekday classroom content on a wide variety of subjects related to the row were made available worldwide to teachers with an Internet connection at www.oarnorthwest.com and www.adventurelearningat.org;

• Over 70 confirmed classrooms on three continents signed up for this free program, resulting in 10,296 unique education page views;

• CWF and OAR Northwest Education programs held eight live webinars with rowers and scientists, reaching over 20,000 students/viewers; and;

• OAR Northwest utilized seven years of media relationships to create international press coverage on NBC's Today Show, CBC, The National, ESPN.com, Outside Magazine, and over eighty other stories in print, radio, TV, and web seen worldwide over a period of 14 months.

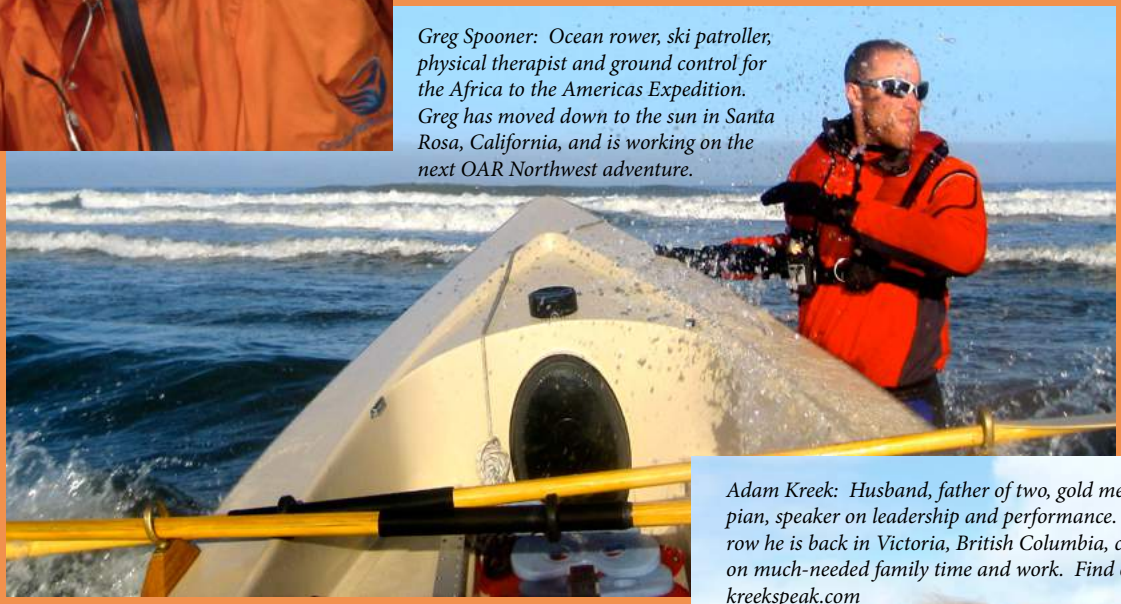
Adam Kreek takes notes at sea.

Meet the Crew

Jordan Hanssen: Author, adventurer and speaker. This was Jordan's second time skippering a crew across the Atlantic Ocean. He is back in Seattle working on his next book, speaking, and planning the next OAR Northwest adventure.

Patrick Fleming: River guide, wilderness EMT, ski patroller in charge of dropping bombs for avalanche control. Pat spent the summer in Bend, Oregon, and is gearing up for the next snow season in Crystal Mountain, Washington.

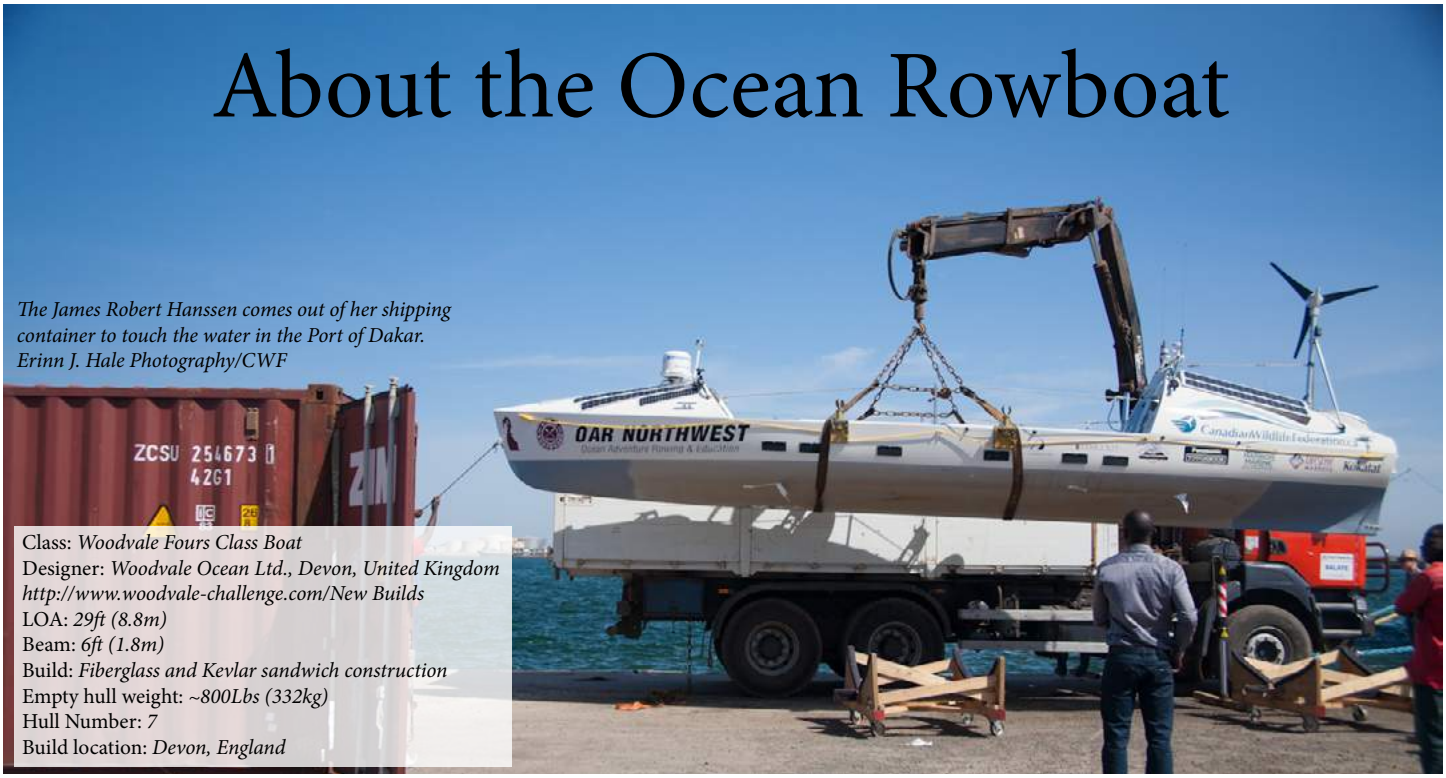
Greg Spooner: Ocean rower, ski patroller, physical therapist and ground control for the Africa to the Americas Expedition. Greg has moved down to the sun in Santa Rosa, California, and is working on the next OAR Northwest adventure.



Adam Kreek: Husband, father of two, gold medal Olympian, speaker on leadership and performance. After the row he is back in Victoria, British Columbia, catching up on much-needed family time and work. Find out more at kreekspeak.com

Markus Pukonen: Environmental action and adventure filmmaker. Markus is back in Tofino, British Columbia, where he surfs daily. He is currently working with the footage from the expedition and planning his dream mission, Routes of Change, a human-powered circumnavigation of the earth, joining forces with OAR Northwest.

About the Ocean Rowboat



The James Robert Hanssen comes out of her shipping container to touch the water in the Port of Dakar. Erinn J. Hale Photography/CWF

Class: *Woodvale Fours Class Boat*
Designer: *Woodvale Ocean Ltd., Devon, United Kingdom*
http://www.woodvale-challenge.com/New Builds
LOA: *29ft (8.8m)*
Beam: *6ft (1.8m)*
Build: *Fiberglass and Kevlar sandwich construction*
Empty hull weight: *~800Lbs (332kg)*
Hull Number: *7*
Build location: *Devon, England*

Background: The Woodvale Fours Class Boat was specifically designed to tackle the North Atlantic in the 2006 North Atlantic Rowing Race. OAR Northwest purchased one hull, outfitted the vessel and won the race, securing a Guinness World Record for the crossing.

Although the boat was built in England, the James Robert Hanssen was outfitted in Seattle at Canal Boat Yard with the help of Emerald Harbor Marine, Pacific Fiberglass, and Petrel Marine. From getting the right equipment to installing it, fiberglass work, boating know-how and more, we were in some of the most capable hands in North America. Below are just a few of the crew. We rowed the boat but they made it work.

Larry Schildwachter
is the General Manager of Emerald Harbor Marine and leads OAR Northwest's Marine Technical Team. He brings the show together. When he is not at the boatyard you can find him mountain biking in the summer and skiing in the winter.

Dan Heyl
designed the systems and installed them aboard the James Robert Hanssen. He is an ABYC certified electrician and Senior Project Manager with Emerald Harbor Marine. When not at the yard you can find Dan racing his Thistle sailboat, usually in the lead.

Paul Williams
With the heart and skill of a trained chef and master gardener, Paul uses his technical skills to install electronics, A/V, and D/C and A/C power systems for Emerald Harbor Marine and did so on the JRH. When not working you might find him on the motorcycle race track.

Mark Stamm
Fiberglass guru at Pacific Fiberglass. He turns fiberglass, fairing and painting into art. When not at the yard he's getting his dogs ready for the next year's sled race.

Matt Netting
Owner of Petrel Marine and lead technician. Matt was a rower and spent years operating yachts and knows the sea's unforgiving nature. When not working on boats you might find him flying small aircraft.

Documenting the Row

Documenting the row with film and photographs required three full-time jobs. Markus shot day-to-day on the boat; all photos and video from outside the boat and of the four of the rowers were taken by Erinn J. Hale (photo) and Christopher Yapp (video).

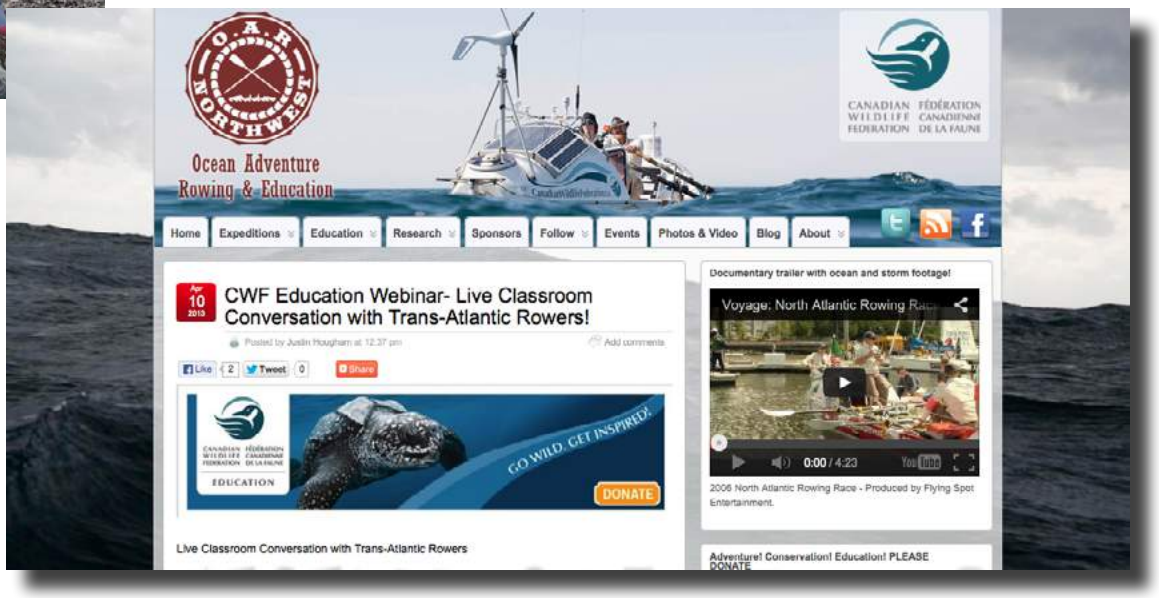
Erinn J. Hale has photographed OAR Northwest on the waters of the North and Mid-Atlantic spanning three countries in at least four types of boats from an 18-foot rigid bottom inflatable to a 97-foot tugboat to a 19-passenger turboprop aircraft. When not capturing life behind the lens you may find her biking, dancing or growing amazing tomatoes in her organic garden.

Christopher Yapp has filmed from the Arctic to Afghanistan and worked on the CWF and OAR Northwest Documentary "Salish Oars." He followed OAR Northwest on land, air and sea and got the shots. He is working with Markus to bring the documentary to the screen. Although he uses HD for most of his work he prefers to film with his Leica M6

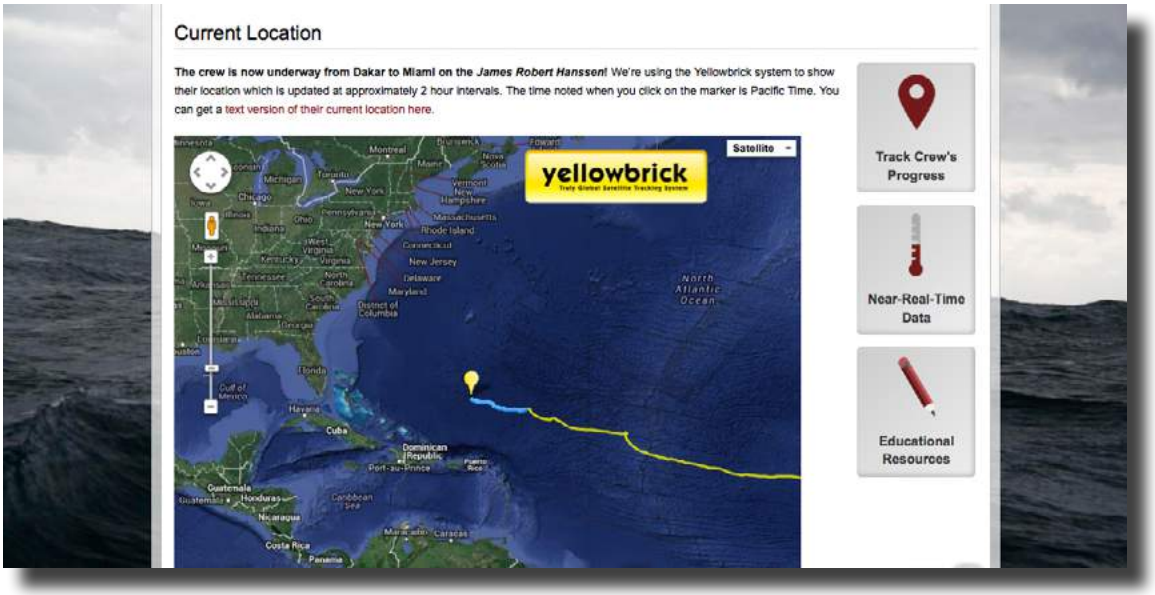
The whole Senegal documentary crew. Left to right: Adam, Markus, Christopher, Jordan, Pat, Doug (Jordan's Brother and OAR Northwest intern), and Erinn.

Bringing It to the People (Web Design)

Mark Root-Wiley supported OAR Northwest's website during both the Salish Sea and Africa to the Americas expeditions. Mark developed the "Expedition Dashboard" to showcase updates from crew members, researchers, weather reporters, and those on shore. When not helping nonprofits with website design you can find him at the pick-up game soccer field.



Blog Post



Boat Tracking

Volunteer Power

OAR Northwest is powered by two things: oars and volunteers. Over the course of four years at least 100 people have volunteered in one way or another. From boat shows to parties, events, schools, and hard labor at the boat yard you helped bring our dream to fruition. We are humbled. There is only one thing we can say...

Erinn J. Hale Photography/CWF

Jake and Carl take a break from promoting at the Boats Afloat Show.

Over a dozen people volunteered to pack over 100 days of food at King's Elementary School in Seattle, Washington. It took ten hours.

School kids waiting to see the crew off on N'Gor beach, Dakar.
Erinn J. Hale Photography/CWF

Education Program

R. Justin Hougham, Ph. D.
Assistant Professor, Environmental Education Specialist, University of Wisconsin - Extension

Brant G. Miller, Ph. D.
Assistant Professor, Science and Technology Education, College of Education, University of Idaho

Since 2005, our rowing adventures and expeditions have brought us, and the ocean, in front of thousands of students. The CWF Africa to the Americas Expedition was our opportunity to change the adventure education paradigm and deliver innovative educational STEM (Science, Technology, Engineering, and Mathematics) content in real time from the middle of the Atlantic Ocean. To guarantee the best education content delivery framework from an isolated rowboat to classrooms worldwide, we turned to adventure learning experts, Adventure Learning @ (AL@). We told them what we wanted to do, and they told us how they could help.

AL@ uses place-based contexts for teaching and learning science through technology-rich curricula. Students can explore both new and familiar locations through physical experiences as well as through digital media, geospatial technologies, and online collaboration. The AL@ framework is based on design principles for face-to-face

and online interactions between participants to provide tangible experiences with science research while also promoting personal inquiries that bring remote scientific research to students and teachers in previously unexplored ways.

Team speaking to local school in Dakar, Senegal.

AL@ worked closely with us to design ways in which teachers and students could get involved with our expeditions directly through our website. Daily content was pushed to education partners through the website and the 70+ teachers directly via email. The beauty of the whole system was that it did not end with the expedition. Even after the rowboat was recovered and the crew was safe on dry land, daily lessons are available any time afterward. This supports lasting connections to the expedition and a foundation for future education efforts.

Learn more about the education program at oarnorthwest.com/education

Group Photo on N'Gor Beach moments before departure on January 23, 2013.
Erinn J. Hale Photography/CWF

Crew rows the James Robert Hanssen to Dakar's Terrou-Bi Hotel dock for final preparations days before departure.
Erinn J. Hale Photography/CWF

Science and Research

Water Quality

Dr. Fritz Stahr, University of Washington School of Oceanography

Dr. Fritz Stahr

It is no small feat to gather data in the ocean, let alone scientific data that are viable and research quality. Furthermore, the challenge is that much greater in a 29-foot rowboat. However with the help of Dr. Fritz Stahr of University of Washington's School of Oceanography, Dr. Eric Grossman of the United States Geological Survey, the National Weather Service, and Dr. Richard Mrazek of the University of Lethbridge, the JRH was outfitted as a unique vessel of opportunity with scientific instruments that measured a variety of water and air properties. The boat's naturally slow speed allowed it to gather data at a fine spatial resolution in places small boats rarely go and not even commonly covered by large ships.

Science helped turn this row across the ocean into a one-of-a-kind expedition. By collecting oceanographic and meteorological data which provide basic vital signs of the ocean system, we gain a better understanding of the ocean and, in some ways, its health. Because it covers 71-percent of the Earth's surface and contains approxi-


Dr. Eric Grossman

mately 97-percent of its water, we can surmise that the health of the ocean is a good indicator for the health of the Earth. Gathering the scientific data to provide all, including young students, the ability to see and freely interpret the information was significant. We aimed some of the instrumentation and collections to specifically address the issue of ocean acidification, which is likely to be one of the earliest and most dramatic consequences of anthropogenic climate change.


Dr. Richard Mrazek

Dr. Stahr of University of Washington's Seaglider Fabrication Center is OAR Northwest's chief scientist. With his help, we measured a number of sea-surface properties using a series of instruments fed by water pumped from a through-hull fitting in place for the watermaker. Data included temperature, salinity, dissolved oxygen, chlorophyll fluorescence, pH, and partial-pressure of carbon dioxide. We also measured near-surface air properties – temperature, relative humidity, wind speed and direction, and barometric pressure. These instruments were all connected to a dedicated microcomputer for data logging and automated delivery to shoreside computers via the Iridium satellite system. A subset of critical parameters, averaged over 15 minute intervals, were sent ashore every four hours. Measurements of temperature and salinity versus depth using a separate handheld conductivity-temperature-density (CTD) device were made twice daily to approximately 30 meters deep. This provided a better understanding of the nature of subsurface influences on the surface properties observed aboard.

The plan was difficult to fully realize on occasion due to lack of sufficient power on many occasions and not debugging all parts of the system fully prior to departure. We couldn't accomplish every goal nor did all instruments survive the capsize, including the CTD and the card storing the highest resolution water and atmospheric data. Yet much of the data did make it ashore and is still being culled through for valuable insights. Despite these setbacks, we learned from the performance of the system (or lack of it) ensuring a more robust design for future expeditions.


Picking up plastic floating at sea.


Red light helped maintain clear vision at night.


A flying fish that landed on deck.


A Portuguese Man-o-war floating by.

Sleep, Rest, and Recovery Research

Dr. Charles Samuels, MD, Centre for Sleep and Human Performance


Dr. Charles Samuels

Endurance rowing limits a rower's ability to sleep and recover. Sleep researchers Dr. Charles Samuels (University of Calgary Faculty of Medicine and the Centre for Sleep and Human Performance), Dr. Lois James (Washington State University-Spokane's Sleep and Human Performance Program), and Mr. Brent Alexander (Calgary, Alberta's, Centre for Sleep and Human Performance) designed a unique study for the OAR Northwest rowers to investigate the impact of a unique, structured sleep-wake-rest schedule on a rower's ability to perform and resist the impact of cognitive and physical fatigue under the stressful conditions of a transatlantic rowing expedition.

This observational research study had the rowers each wear a wristwatch-style ReadiBand® physiological activity sensor (manufactured by Fatigue Science, Vancouver, Canada) throughout the expedition to track sleep quality,

Mr. Brent Alexander

quantity, and cognitive effectiveness based on an algorithm that integrates cumulative sleep loss and circadian factors to predict cognitive effectiveness or fatigue levels. The rowers completed three specific web-based questionnaires: the Athlete Sleep Screening Questionnaire (ASSQ), which assessed baseline sleep behavior in the rowers; the Hooper-Mackinnon Questionnaire, which assessed cognitive and physical fatigue; and the Karolinska Sleepiness Scale, which assessed sleepiness, at four key times during each day continuously over the course of the expedition. The rowers completed these questionnaires using software written especially for Panasonic Toughbooks by Fusion Sport. The primary data endpoint of the study measured cumulative sleep loss based on baseline sleep requirement. Secondary data endpoints compared the prediction of cognitive effectiveness to subjective reporting of cognitive fatigue(the Hooper-Mackinnon questionnaire) and sleepiness(the Karolinska Sleepiness Scale). Ultimately the goal of the project was to determine the impact of a uniquely structured sleep-wake-rest routine for a four-person transatlantic rowing expedition. By objectively and subjectively measuring the rowers' sleep-wake patterns before, during, and after the expedition, this research provided new understanding of the links between sleep restriction and fatigue on cognitive and physical performance in endurance-rowing athletes.

Dr. Lois James

Ocean Rowing Navigation

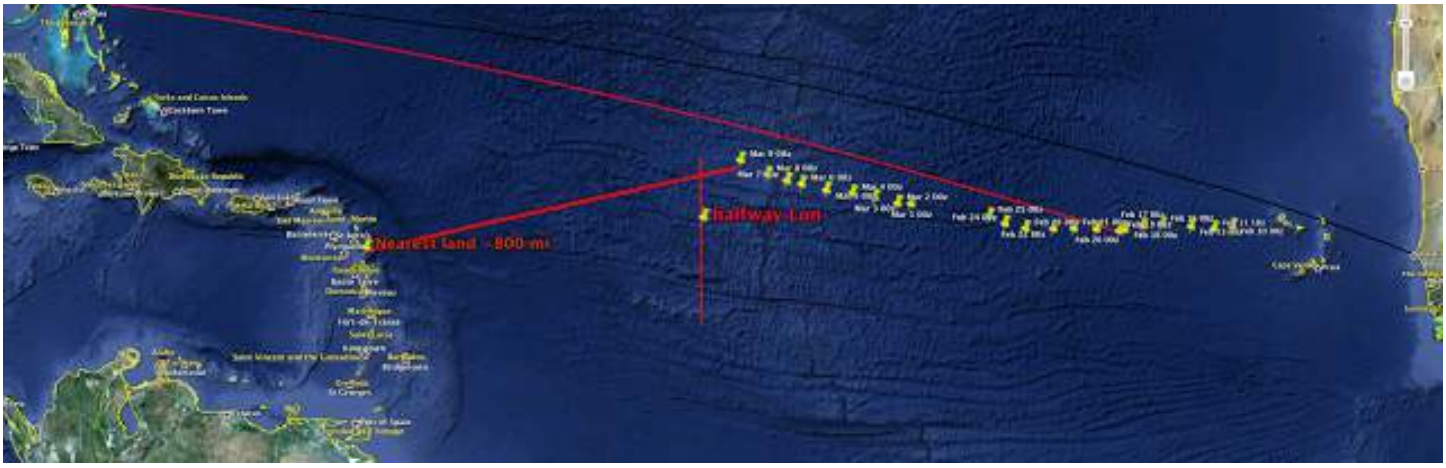
Dr. David Burch, Starpath School of Navigation

With nothing but human power to propel the craft and a sustainable top speed on flat water of just over 3 knots, an ocean rowboat is difficult to navigate. Dr. Burch's practical experience (70,000 miles sailing in deep water) and analyses made this process of estimating currents, mitigating risk and helping choose the best path for our boat possible. Below are some of his calculations:

Dr. David Burch

Pre-Trip

Departure: Dakar, Senegal: 14º 38.6' N, 17º 26.0' W
Destination: Miami, USA: 25º 45.5' N, 080º 07.4' W
Rhumbline distance (distance based on a straight line drawn on a chart) = 3606.03 nautical miles on a constant heading of 280.7 True.
Great Circle Distance (distance based on a straight line from point to



point on a globe) = 3561.55 nautical miles with an initial heading of 291.5 True.
At an average speed made good (SMG) of 2.5 knots, passage should be 60 days. This assumes an average distance per day of 60 nautical miles.

We rowed almost exactly 73 days (72.9) over a cumulative distance of 2,949.1 nautical miles. That was only 220 nautical miles, further than the shortest route (great circle) from Dakar to our last position, or approximately 7.5-percent longer, showing good efficiency. At that point, we were only 840 nautical miles, from Miami, having completed approximately 77-percent of the great circle distance from Dakar.

Average speed: 1.68 knots
Average distance per day: 40.4 nautical miles

Expedition Forecasting

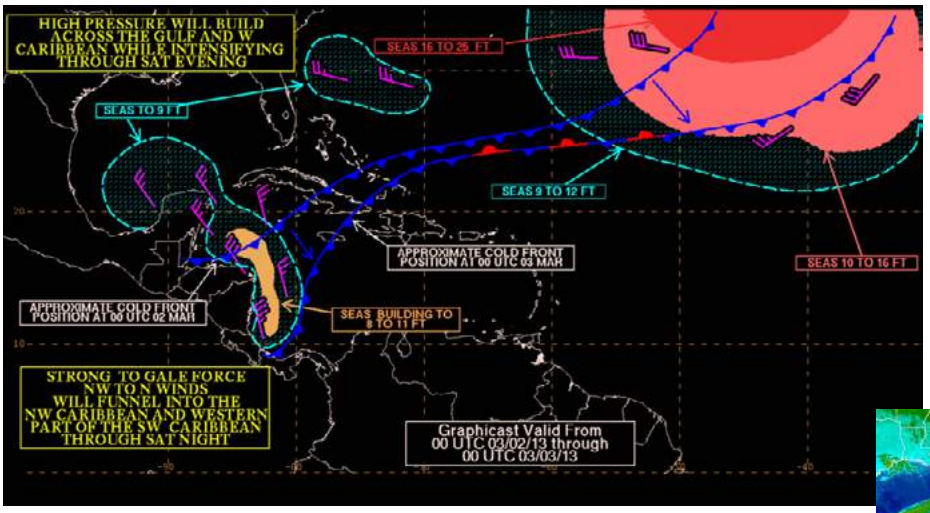
Angie Pendergrass, Ph. D., Lead Forecaster, University of Washington Department of Atmospheric Sciences

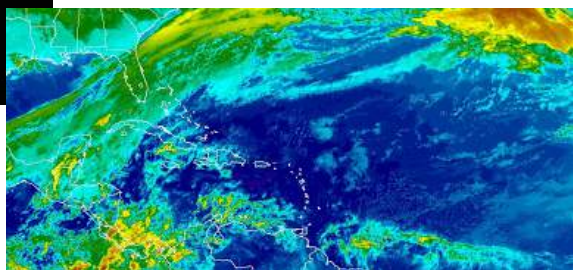

Dr. Angie Pendergrass

Climate was the general conditions on which OAR Northwest planned its itinerary, but weather was the day-to-day forces that impacted the team. In spite of a history of traditional trade winds and current in our favor, we did not find this year's weather to be anywhere near normal.

Fortunately we were helped by forecasters from the Student Chapter of the American Meteorological Society at the University of Washington. They generated a total of 60 forecasts over the duration of the Atlantic rowing journey (45 daily forecasts from January 22 to March 7 2013, and 15 every other day from March 9 to April 6). The forecasts sent directly to the rowboat included discussions of current weather and near-term forecasts for the next one to two days with a weekly outlook. Forecasts also included wind and wave parameters, anticipated cloud cover, barometric pressure, and (experimentally) ocean surface currents. The forecasts, along with observations received by email or phone, are archived for future review (uwams.wordpress.com).

The ten-student core forecasting team in the University of Washington Department of Atmospheric Sciences consisted of eight graduate-level students and two undergraduates*. They came to the project with a range of experience in forecasting and familiarity with tropical meteorology. Students involved: Angel Adames, Hannah Barnes*, Kelley Bayern, Bonnie Brown, Megan Chaplin*, Jennifer DeHart, Kennethn Dixon, Elizabeth Maroon, Kristen Rasmussen, and lead forecaster Angie Pendergrass.





While the forecast team was composed of atmospheric scientists, we were also trying to use ocean surface current forecasts (spearheaded by David Burch) because that is vital to traveling at rowing speed. We engaged oceanographers to help us interpret and understand various surface current model data. This group of graduate students, postdoctoral scholars, and researchers included Jesse Anderson, Jacob Wenegrat, and Nick Beaird of University of Washington School of Oceanography, John Mickett of the Applied Physical Laboratory of the University of Washington , Ryan Abernathy of Scripps Institution of Oceanography, and Stuart Bishop of the National Center for Atmospheric Research.

Applied Sport and Performance Psychology

Dr. Terry Orlick, Zone of Excellence

To excel on a long and arduous journey like a transoceanic row, athletes will experience emotional highs and lows from day to day, instigated by everything from trivial bathroom needs to encounters with superpods of dolphins. Daily highlight journals documented these for constant reflection. The highlight journal came to be an audio recording on ruggedized smartphones and was usually shared between rowing mates. The "rose and thorns," as the rowers named them, helped our need for self-reflection and understanding of our emotional and mental states.

Dr. Terry Orlick

Dr. Orlick's research centered on what the rowers focused on to perform their best, to overcome daily challenges and to embrace the positives or simple joys of the journey. Each rower was asked to keep a personal diary where he recorded the highlights at the end of each day of the expedition. The purpose of the highlight journal was to keep all members of the crew focused on the positives and not the negatives.

Technology Adaptations by Time Zone

Alessia Knauss, SEGAL labs at the University of Victoria

We rowed and lived by a very specific daily schedule that was designed on land to make the living/rowing/educating/researching tasks manageable. Every aspect of the rowers' schedules was governed by an adaptive scheduling system developed as part of the Computer-Supported Cooperative Work (CSCW) course in University of Victoria's Department of Computer Science.

Allesia Knauss

In this project, a scheduling system called ToTEM (Task on Time Executive Mediator) was developed as part of the CSCW course in the Department of Computer Science. The project members are Alessia Knauss, Angela Rook, and Jason Cummer. The evaluation of ToTEM is part of Alessia Knauss' doctoral research at University of Victoria's SEGAL labs under Dr. Daniela Damian.

ToTEM is an adaptive system that supported the crew in scheduling tasks and activities. It was designed to assist them while slowly traversing five time zones, all while being physically and mentally fatigued. A key characteristic of the program, designed as an Android application by Cummer, was its ability to automatically make small adjustments to localize time-of-day according to the present longitudinal position. It then coordinated with a calendar to keep the rowers on schedule.

Angela Rook

Although other programs existed offering similar features, none could adjust incrementally to changing time zones, and none was easy enough to use for people under the kind of stress the rowers endured.

Dr. Daniela Daminan

Jason Cummer

Adam and Markus row out of the Port of Dakar.
Erinn J. Hale Photography/CWF

Dakar, Before Boat Arrival

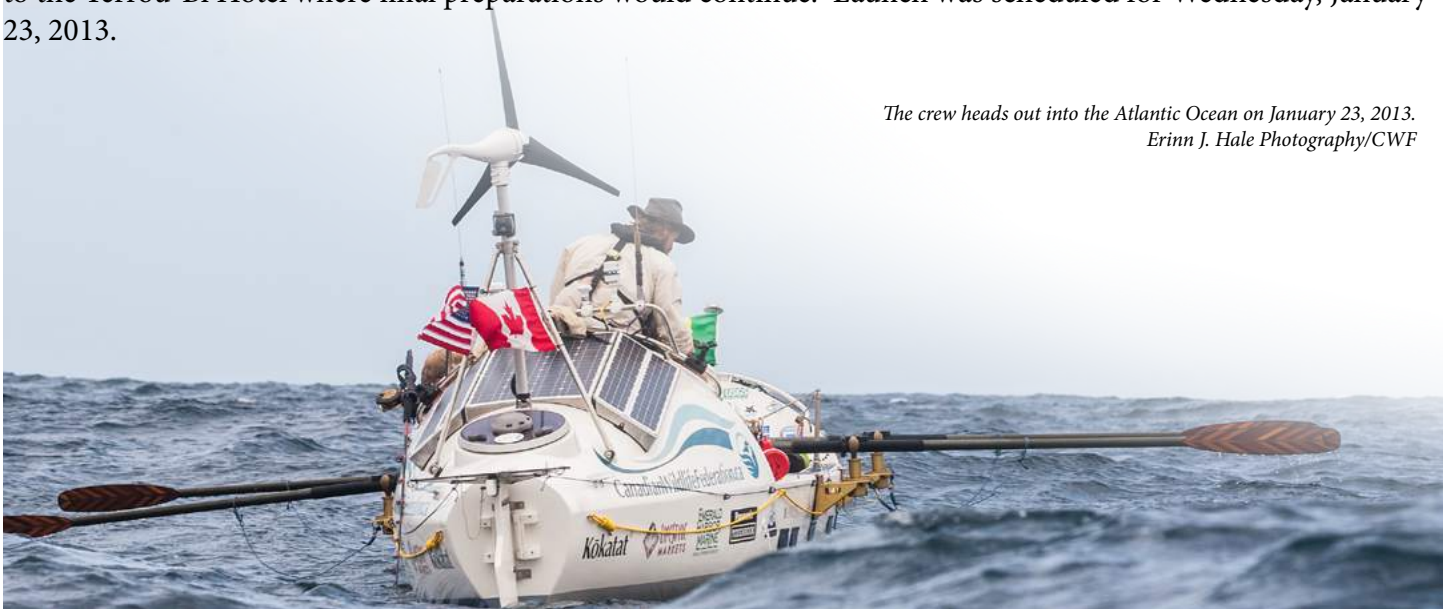
Adam Kreek arrived Dakar, Senegal, on December 26, 2012. He was the fourth and final crew of the Rowboat James Robert Hanssen. Markus Pukonen, Patrick Fleming and team captain Jordan Hanssen had been in Dakar for weeks. Shipping delays pushed the expedition's departure date back. The latest update had the boat arrival set for January 4, 2013. Barring more delay, the crew would leave within a week of the rowboat's arrival. On December 29th and 30th photographer and videographer Erinn Hale and Christopher Yapp arrived in Senegal to start documenting the CWF Africa to the Americas Expedition.

Over several weeks the team had cultivated relationships with Canadian, American, and British embassies and their respective ambassadors, the Senegalese Minister of the Environment, volunteers from the United States Peace Corps, the owner of N'Gor Surf Camp Hostel, and teachers at the International School of Dakar (ISD). This led to moorage at the Terrou-Bi Hotel, (the only secure dock in Dakar), media contacts, and contacts to visit two additional local schools through ISD, Halwar Groupe Escolare and the West African College of the Atlantic.

On January 2nd the team received the latest update on the boat's shipping that put it in Dakar fifteen days later than expected. Combined with the days it would take to clear customs it put our departure shortly after January 20th, assuming no unforeseen difficulties.

Dakar, After Boat Arrival

The boat finally arrived in Dakar on January 17th. Prior preparation allowed the boat to clear customs in a record two days. Boat ramps and trailers were unavailable and, in lieu of this, a small truck-mounted crane was used. The crew assisted the local longshoremen in getting the boat in the water to start rowing the twelve miles to the Terrou-Bi Hotel where final preparations would continue. Launch was scheduled for Wednesday, January 23, 2013.



The crew heads out into the Atlantic Ocean on January 23, 2013.
Erinn J. Hale Photography/CWF

The crew anchors at Ile de N'Gor on the night before departure.
Erinn J. Hale Photography/CWF

All equipment came online without trouble save some software trouble with the satellite dome and the a lack of wind to verify if the wind generator was working. Four days after putting the boat in the water the crew rowed the boat from the Terrou-Bi Hotel around the tip of Cape Verde to safe moorage behind Ile de N'Gor where the crew had been staying.

Departure

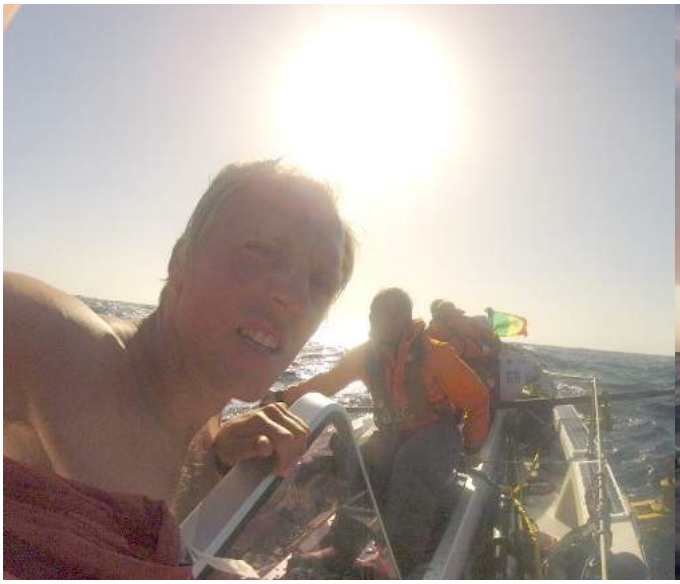
On the morning of January 23, 2013, the team met over two hundred people ranging from students, teachers, ambassadors, local holy men, businessmen, a band of drummers, several local news agencies and international affiliates. At roughly 10:30 GMT the team shoved off into the Atlantic from N'Gor beach on the African Mainland.

For 72 hours the team suffered various levels of seasickness in six-to nine-foot seas as they adjusted to life at sea. Difficult beam seas (hitting the side of the boat) pummeled the boat on the boats northwesterly course through the Cape Verde Islands. On the morning of the third day the team experienced several hundred small brown dolphins stampeding the boat. This rare occurrence was caught on film and set the stage for many wildlife encounters.

Early on a large wave overcame the boat and broke an oar. That morning the boat's sea anchor was deployed, beginning a pattern of going on sea anchor (underwater parachute that arrests the boat's motion safely) that would last throughout the trip as a strategy to safely handle waves that were too rough to row in. Before leaving the waters of the Cape Verde Islands another oar was broken, leaving the team with no more spares and forcing them to row even more conservatively.

Shortly after leaving the Cape Verde Islands the wind generator died and the rowers made due with power generated from the solar panels. Each day the crew decided how much energy to budget for content creation versus the energy needed to create 35 liters of fresh water. Efforts to fix the wind generator resulted in a blown fuse that temporarily shut down the entire power system.

If the power had not come back on the team had over 110 liters of backup water as ballast and a large handheld saltwater desalination unit. Fortunately, after the fuse was replaced it was discovered that the solar panels were performing better than the instruments indicated and it was the wind generator causing a faulty reading. With more power available the team was able to create more content to be transmitted to the trip blog at oarnorthwest.com.



Markus takes a selfie as afternoon turns to evening.

Adam and Pat eat dinner at the best restaurant within 500 miles.

Life at Sea

Despite these challenges, life on the boat changed little. Every hour in the day was scheduled to balance the rowers' energy to maximize health and output. Primary sleeping shifts happened at night in two- and four-hour segments. Meals were cooked for the entire crew taking turns as chef. Depending on sun cover and need, water was made at least every other day that served both as drinking as well as cooking and cleaning water.

Content creation was a constant. Blogs, tweets, audio updates, sleep surveys, and maintaining science equipment was continuous. Still and video cameras were kept available in order to document the journey and take advantage of serendipitous animal sightings. It took a great deal of solar and physical energy to process and the crew became acutely aware of what a well-managed body is capable of. Mornings and evenings were the crew's most social times of day centered around dinner, coffee or tea--dependent on weather.

Adam eats lunch on sea anchor.

Halfway Point

Past the halfway point the team entered the Sargasso Sea and began to encounter the prevalent seaweed that gives this region its name. Squalls brought the first rain and lightening of the trip. Whales were sighted including fin, minke and even a North Atlantic humpback whale breaching a quarter mile away. On one occasion the crew was able to swim with them. Dorados followed the boat constantly and flying fish, flying squid, and birds were seen every day.

Squalls made conditions right for a moonbow. This rare natural phenomenon is caused in the same way a rainbow is formed except the light provided from the moon creates what appears at first to be a greyscale rainbow. The longer it is viewed faint colors begin to appear.

Ship traffic was minimal. The route from Dakar to Miami does not run parallel to any shipping lanes but crosses five.

Erinn J. Hale Photography/CWF

On the 72nd day the crew was cautiously confident of arriving in Miami within three weeks. Food was holding out comfortably, content creation was consistent despite ongoing power limitations. Bodies and minds were healthy and weather seemed to be turning more favorable.

Capsize

At roughly 6:00AM EDT on Day 73, Patrick and Adam began a shift change with Jordan and Markus. In the preceding hour the wind had increased to twenty knots from the east and seas had built to nearly six feet. The crew had rowed in seas twice as large at various points during the trip; however, going on sea anchor was discussed. We decided conditions were currently manageable.

Toward the end of the shift change Jordan, a veteran of OAR Northwest's 2006 North Atlantic row, was on the helm and noticed two closely stacked six-foot waves with steep, box shapes appear 30 degrees off to starboard. He turned the boat's stern toward the waves as Patrick reached to close the cabin hatch. The first wave overwhelmed the stern. Four thousand pounds of water filled the deck. The boat listed to starboard as the boat shed water over the gunwales and drained through its scuppers. As the first wave flowed through the bow the second

A United States Coast Guard HC-144 Sentry takes a picture of Markus poking his head out of the life raft with the overturned rowboat in the background.
Credit: United States Coast Guard.

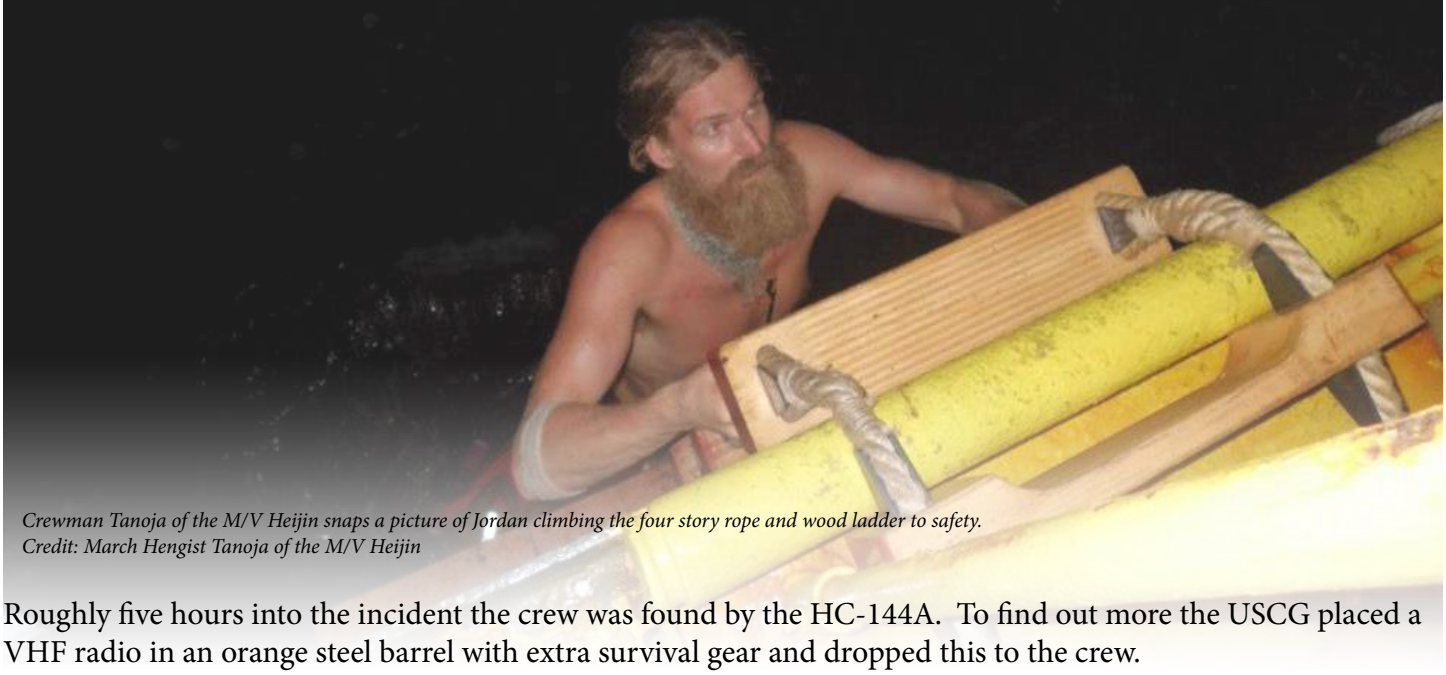
wave (less than thirty feet from trough to trough) gripped the stern and drove the bow of the boat into the back of the first wave while the trough between the waves undercut the boat's stabilizing dagger board. The boat rolled. Due to the timing of the shift change and the speed of the roll the team was unable to close the hatch in time. This compromised the boat's ability to self-right.

Markus and Jordan were thrown from the deck. Patrick and Adam swam out of the flooded stern cabin. No one sustained injury. Gas-inflated life vests deployed as each of the crew entered the water and activated their ACR Personal Locator Beacons (PLB) attached to each vest. All four were activated and the life raft was deployed.

Back on land the PLB transmissions had been received and the United States Coast Guard in Puerto Rico received the distress signal. By 6:29AM EDT the Coast Guard deployed a HC-144A Ocean Sentry search and rescue aircraft to the team's location. Simultaneously team manager Greg Spooner was notified and he began informing the crew's family and the Canadian Wildlife Federation.

In 45 minutes the crew secured the scene and attempted to flip the boat back over for three hours before getting into the life raft to save energy.

Within two hours of getting the order the Coast Guard HC-144A was in the air. Fifty miles out they began to pick up the PLB's signals.



Crewman Tanoja of the M/V Heijin snaps a picture of Jordan climbing the four story rope and wood ladder to safety.
Credit: March Hengist Tanoja of the M/V Heijin

Roughly five hours into the incident the crew was found by the HC-144A. To find out more the USCG placed a VHF radio in an orange steel barrel with extra survival gear and dropped this to the crew.
Radio contact was established and the crew passed on the knowledge that all four were accounted for and unhurt. After approximately 90 minutes the USCG HC-144A was relieved by a C-130 Hercules which would stay

onsite until the rescue ended. The captain of C-130 informed them two civilian vessels (M/V Heijin and M/V Tanais Leader) had been diverted to this position and would be on scene in three to four hours.

Around 5:00 PM EDT the vessels came into sight. Wind and waves had continued to increase to above two meters and over 35 knots. M/V Tanais Leader was a 540-foot chemical tanker bound for Russia and the 580-foot M/V Heijin was a car carrier bound for San Juan, Puerto Rico. This box-shaped vessel was built with 90-feet of highboard to accommodate 4,000 cars. The only ingress is a small opening halfway up the ship's bulkhead. Because of their destination, M/V Heijin would lead the rescue.

At a quarter mile away the captain of the M/V Heijin requested the life raft be cut loose from the capsized boat. Twenty of the ship's crew, dressed in safety orange jumpsuits, were visible to assist. Upon reaching the bow thrusters the M/V Heijin's wash took the drifting life raft and rolled it down the ship's steel hull. The OAR Northwest crew fended off the sides of the ship and reached out for the lines thrown by the M/V Heijin's crew. On the second pass, the pilot ladder was caught and the rowers climbed safely onto the M/V Heijin. Once the USCG aircraft crew established that all souls were safe aboard, they departed the scene.

The crew sees their for the first time in months after being processed by the TSA and USCG in San Juan, Puerto Rico.
Erinn J. Hale Photography

After the Rescue

The crew of the James Robert Hanssen enjoyed the hospitality of the M/V Heijin for the twenty-five hours it took to steam to San Juan, Puerto Rico. Upon arriving in San Juan the rowers were taken to the USCG to meet

The Today Show's Matt Lauer interviews the crew hours after they reach land. Courtesy The Today Show.

their families, team manager Greg Spooner, Stephanie Poff (representing the Canadian Wildlife Federation), and team photographer and videographer Erinn Hale and Christopher Yapp.

After debriefing with the USCG, the rowers began taking media calls until midnight. Beginning at 6:00 AM EDT the next day, the crew, under the direction of Greg and Stephanie and with the help of their families, managed over 40 interviews with media around the world and conducted a webinar several days later with over 1,000 students participating.

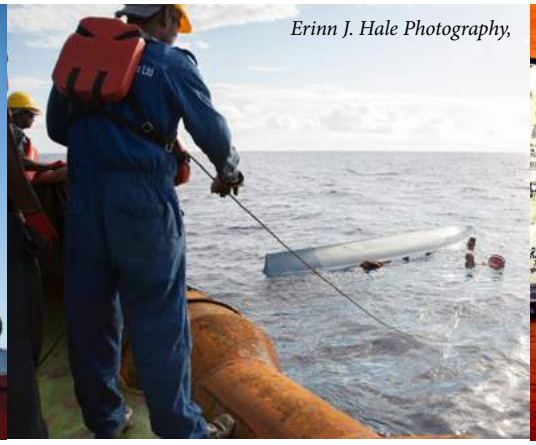
Boat Rescue

Two days later -- after researching the feasibility of the project and consulting with CWF CEO Wade Luzny -- the decision was made to search for and rescue the boat with its equipment, film and data.

The boat, a speck of white at 800 feet, found in a search are the size of Rhode Islands
Erinn J. Hale Photography

The next day Jordan, Greg, Erinn and Chris, armed with a set of drift models provided by the USCG, began an air search for the overturned rowboat. Within 35 minutes of descending to an altitude 800 feet above the ocean to the 1600-square-mile search zone the boat was sighted.

Within twelve hours of landing and six days after the capsize, Markus, Jordan, Erinn, and Chris embarked on the 97-foot Borinkin Towing's tugboat Sentry. It took two and a half days for the Sentry to reach the search area that, since the first sighting, had grown to 400 square miles due to currents and wind. The Sentry had fuel for three



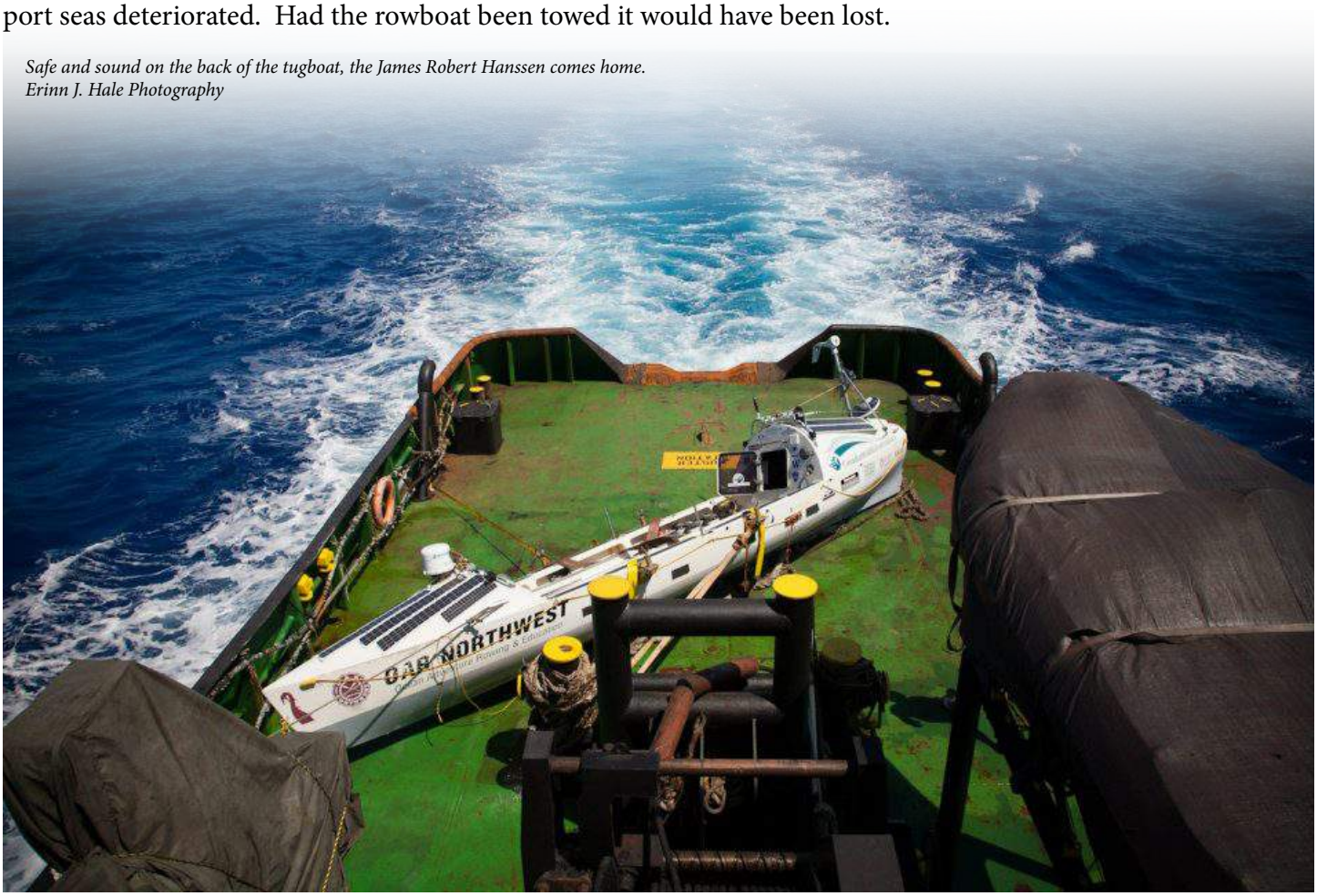
Images of the boat rescue left to right: The boat floating next to the tugboat; Lifted into the air; and, the hard drives with recovered images and data.

days of searching. Conditions were perfect. The first day was unsuccessful and it was decided that the chances of finding the boat would be greater if the aircraft was used again. The second day the same aircraft went out and spotted the rowboat at 2:00PM EDT and was able to get the information to the Sentry at 5:30PM EDT.

The rowboat James Robert Hanssen was thirty-six nautical miles away. Due to the tug's speed of nine knots it would be unable to reach the rowboat before nightfall. It was decided we would arrive at its last confirmed location at dawn. At 5:30AM EDT the entire crew of the tug was scanning the horizon. Less than two hours later, at 7:05AM EDT, the boat was sighted.

Markus and Jordan, with the help of the crew, used the tugboat's crane to flip the boat over. Although the water was relatively calm, the boat sustained minor hull damage as it was lifted onto the tugboat. On the way back to port seas deteriorated. Had the rowboat been towed it would have been lost.

Safe and sound on the back of the tugboat, the James Robert Hanssen comes home.
Erinn J. Hale Photography



Jordan with the USCG Crew of the HC-144 Ocean Sentry at their base in Coast Guard Station Miami. Courtesy Nichole Kalil of ACR-Artex

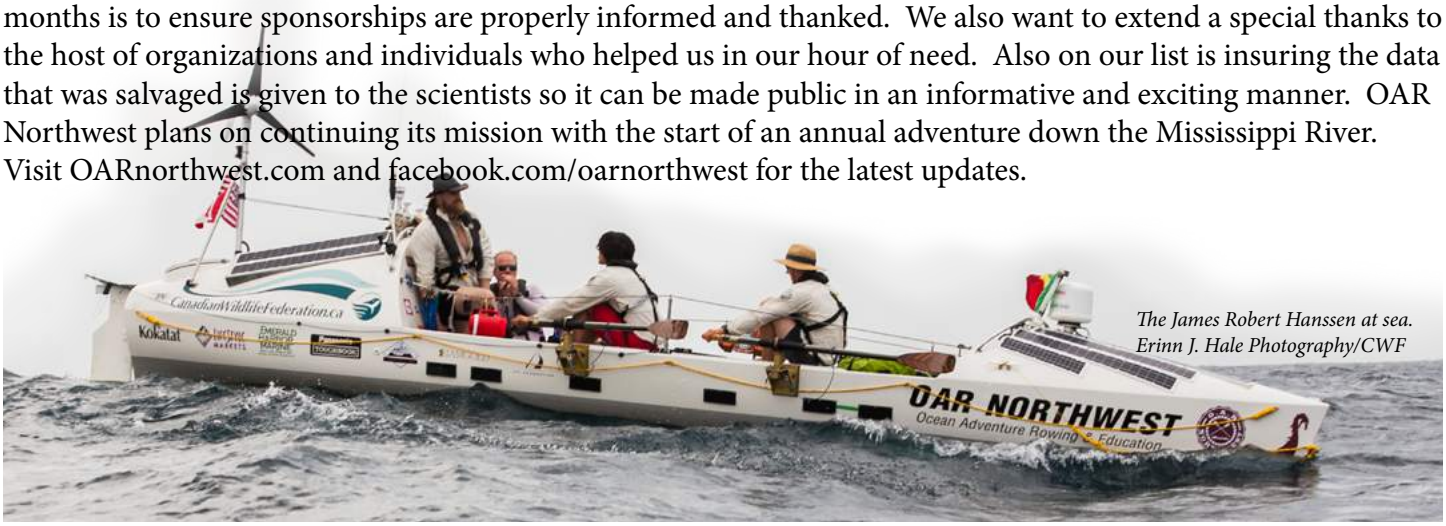
San Juan, Puerto Rico, After the Boat Rescue

With the help of many motivated local volunteers the OAR Northwest team cleaned the boat and prepared it for shipping back to Seattle. This process took seven days. Most of the boat's electronics were a total loss. However the expensive scientific instrumentation, meant to run wet, was all recovered. All physical SD cards with images and data were recovered as well as both computer hard drives. After several weeks of recovery work, twenty-eight hours of video, 219.81 GB of data, and 2,000 photos were successfully removed from the salt-encrusted electronics.

Over the next three days Jordan and Markus thanked those who helped them in Puerto Rico before Markus headed to Toronto and Jordan headed to Seattle via Florida where he and Stephanie personally thanked the US Coast Guard crews on behalf of the Canadian Wildlife Federation and OAR Northwest.

Future

A project of this magnitude staffed by volunteers takes time to wrap up. Our priority over these last and next months is to ensure sponsorships are properly informed and thanked. We also want to extend a special thanks to the host of organizations and individuals who helped us in our hour of need. Also on our list is insuring the data that was salvaged is given to the scientists so it can be made public in an informative and exciting manner. OAR Northwest plans on continuing its mission with the start of an annual adventure down the Mississippi River. Visit OARnorthwest.com and facebook.com/oarnorthwest for the latest updates.



The James Robert Hanssen at sea. Erinn J. Hale Photography/CWF

Conclusions

> "We can't protect something that we do not love; we cannot love what we do not know, and we cannot know what we do not see. Or hear. Or sense." -Richard Louv, The Nature Principle

OAR Northwest is driven by curiosity. Adventure is how we express it. Without curiosity there is no desire for exploration, discovery or knowledge. These qualities help us make good decisions about the future of conservation on our planet and they are the same qualities that create good leaders for tomorrow.

Building on seven years of adventure racing and travel experience, OAR Northwest used the vehicle of rowing across the ocean to partner with universities, independent research laboratories, NGOs, corporations, grassroots organizations and more, to run experiments with powerful instruments to collect scientific data about our bodies, minds and the ocean.

With the Canadian Wildlife Federation, other sponsors and volunteers we were able to make this trip happen. And with the CWF's continued support at our most challenging hour, we were successful not just in recovering the vessel, but also tens of thousands of dollars of functioning science equipment, invaluable scientific data and images captured during the 73 days at sea.

The adventure is far from over. Back on land we continue to tell the story through school visits, keynote speeches, radio/print/television interviews, writing some of our own stories of the adventure, and creating more content from the data retrieved with help from our scientific partners. The documentary is currently seeking funding and distribution to reach an even wider audience.

OAR Northwest is a 501(c)(3) non-profit organization run and staffed by volunteers across the west coast of the USA and Canada, all of whom have full-time jobs. CWF title sponsorship financed our first paid position for shore operations and logistics manager for 10 out of the 14 months of our association. Over the years, OAR Northwest has cultivated relationships creating a pool of volunteers in the marine and science communities that has allowed our dollars to stretch, creating a unique experience in adventure sponsorship.

In addition to a compelling adventure narrative communicated over thousands of miles of sea in real time, our substance comes from our goal of prioritizing science and education as a tool to communicate a message of conservation. With your support, the CWF Africa to the Americas Expedition continues to be a success.

A rainbow appears post squall as Markus gets out of the cabin.

In Memoriam

Dr. Rick Mrazek was a lot more than an enthusiastic supporter of our project, helping us keep the focus on science and education. He was a father first and also the Associate Dean, Faculty of Education and a veteran educator at the University of Lethbridge. He worked on projects with the Canadian Wildlife Federation for several years and loved the water. He died on Sunday, March 17, 2013, while we were at sea. We are happy and privileged to have known him. Fair winds and following seas, Rick. We will see you on the water someday.

Title Sponsor

CELEBRATING • CÉLÉBRONS NOS

1962 50 2012

YEARS • ANS

CANADIAN WILDLIFE FEDERATION
FÉDÉRATION CANADIENNE DE LA FAUNE

The Canadian Wildlife Federation (CWF) is dedicated to ensuring an appreciation of our natural world and a lasting legacy of healthy wildlife and habitat. Through CWF's partnership for the Salish Sea and Africa to the Americas expeditions, Wade Luzny, CEO-Executive Vice President believes "the OAR Northwest expeditions will draw attention to the health of marine ecosystems and re-connect the public with the outdoors, water sports and conservation. It's an exciting course, with an ocean of possibilities for water education and engagement."

Heading to sea.
Erinn J. Hale Photography/CWF

Supporting Grants

SYC FOUNDATION

The Seattle Yacht Club Foundation, a founding sponsor, rallied with us in 2006, and this maritime community-based organization graciously financed OAR Northwest education programs for the CWF Salish Sea and Africa to the Americas expeditions. The Foundation's purpose is to promote interest and participation in boating activities and programs, with particular emphasis on young people. We're excited to put this valuable gift toward connecting local students with OAR Northwest expedition team members, the marine environment, and their own thirst for adventure and knowledge.

Supporting Partners

IAMGOLD CORPORATION

IAMGOLD is a Canadian mining company where "Empowering people, extraordinary performance" is the touchstone of everything we do. Present on three continents for over 20 years and working across borders and cultures, we focus on cultivating long-term relationships and value for our stakeholders,balancing the pursuit of operational excellence with a vision of accountable mining. For more information, please visit iamgold.com

Kōkatat®

Celebrating over 40 years of innovation, Kokatat is an independently operated, US manufacturer of technical apparel and accessories for water sports. Handcrafted in Arcata, California, Kokatat employees are focused on building the finest functional product for people who work and play on water. Our gear is designed for paddlers, by paddlers, ensuring a safe and enjoyable experience on the water all year long and in all weather conditions. Into the water with Kokatat!

QUALITY VITAMINS + ORGANIC FOODS
LIFESTYLE MARKETS

From quality vitamins and supplements, to fresh organically grown greens to specialty grocery items, Lifestyle Markets provides the ingredients that OAR Northwest team members needed for a healthy lifestyle on land and proper nutrition at sea. Lifestyle Markets offer certified organic foods, local organically grown fresh produce, celiac-friendly foods, an organic fresh food deli, and an extensive selection of vitamin supplements.

Panasonic
TOUGHBOOK

Panasonic Toughbook notebooks and Toughpad tablets never stop performing. That's why OAR Northwest brought this technology onboard in the harshest ocean conditions, entrusting our valuable environmental data, and connection to media, family and home from the middle of nowhere. Built on a renowned engineering legacy, Panasonic architects business technology solutions that help build a better world – even in the 70% that's covered by corrosive saltwater.

EMERALD HARBOR MARINE
YACHT SYSTEMS & SERVICES

Emerald Harbor Marine is the systems specialists. They maintain commitment to the highest quality service, no matter how big or small the project. Their mission is not only to provide the best in equipment, but to ensure that your equipment functions to its peak level in concert with all other onboard equipment. On the North Atlantic we put our lives in the capable hands of these guys in 2006, and 71-days later we made it safe to shore with communications, water, and plenty of power to make more. We're thankful they were onboard again.

Canal Boatyard is more than a boatyard, it's a community of professionals dedicated to their customers of all shapes and sizes. Everything from a tiny rowboat to 55-ton haul-outs. All boats need work, a lot of work. Having a reliable, safe, and enjoyable boatyard to get it done makes the labor much lighter. Boating should be fun. That is what Canal Boatyard believes and strives to make happen throughout the process with excellent customer service and an environmentally friendly boat yard.

Just off the coast of Senegal.
Erinn J. Hale Photography/CWF

Official Suppliers

Advanced Sign Design is a full-service sign manufacturing and design company with a facility in Ballard, Washington. ASD now takes advantage of computer technology and large format digital screen presses and does all manufacturing from vinyl cut graphics to large format silk screening in-house. OAR Northwest loves the large 4' x 9' banner of our craft and the support that Jeff and staff at ASD have provided. They worked with all our sponsors to ensure awesome shipboard imagery!

Bottom Siders designed the puzzle-like cushion system for our cabin and kept our bottom sides comfy, with each custom designed seat pad enduring a 24/7 beating from New York to England – and STILL more comfortable than any competitor's pad after 71 days. Based out of Hoquiam, Washington, Lori and Scott have been making the leading cockpit cushion for sail and power boats for 30 years.

Since 1926 Colonial Knife Corp. has manufactured automatic knives and tools. Colonial Knife manufactures military knives, law enforcement-Tuff Cop™ knives, fire/rescue and marine/sailors knives plus electrical contractors knives, hunters and rock and ice climbing knives. We're bringing the "marlin spike."

Fact: de la Estancia polenta is a staple ocean rower's meal. Nearly every evening on the North Atlantic Ocean we cooked up this "not instant" milled flint corn polenta in one-minute, added spices and cheese, and kept ourselves well-nourished. It is a certified organic, completely natural product that cooks quickly because corn that grows in Argentina is different than corn grown in Europe and the US, resulting in a superior polenta that's high in protein, low starch, and is smooth and creamy.

You can see it in the logo – Edge Food Energy bars are the right choice whether scaling peaks in the North Cascades or British Columbia Range, or traversing vast oceans in an ocean rowboat. These tasty organic energy boosters do it by utilizing protein-rich ancient grains, delivered before, during, and after exercise to keep your metabolic processes moving strong.

Adam used e-load while training for and competing at the 2008 Olympic Games. He found this electrolyte drink to be unparalleled for re-hydration, adaption to heat, and buffering of lactic acid production. OAR Northwest also appreciates that this electrolyte drink is free from artificial flavors and colors.

Erinn J Hale is a real life adventure photographer who captures people diving into their passions. With an art background and a deep emotional intellect, she's been creatively writing visual stories for over 12 years. Whether photographing people setting world records crossing oceans, marrying the love of their life, building gardens for the betterment of their community, or performing in front of thousands of fans, Erinn loves her work.

Located in Tacoma, Washington, along the storied Foss Waterway, The Foss Waterway Seaport maritime museum celebrates Tacoma's rich maritime heritage – past, present and future. The ocean rowboat spent a portion of its own history there on display alongside other beautiful, interactive, and educational exhibits. It's an all-ages experience, open to everyone. We can only hope that our own education programs stack up to the numerous experiential and hands-on opportunities available for kids and teens.

Flatrate International "moves anything from anywhere to anywhere." We had just the item. Flatrate Int'l teamed with Rainier Overseas Movers to get the ocean rowboat safely into its 40ft shipping container, and out across the Atlantic to Dakar. Whether it's corporate relocation, international moving or logistics, they'll navigate the sometimes complex and unfamiliar territory of international logistics and customs. You can rely on them to take care of every detail.

Gig Harbor Boatworks found us – or did we find them? – at the Seattle Boat Show in 2006. Our new boat had sliding seat systems that were meant for fresh, flat-water rowing. Dave Robertson and his son-in-law Falk make some of the finest rowing and sailing dories meant for all waters. The "Ocean Sliders" roll smoothly, quietly, don't break, and are the only seats/tracks you want in your boat. The new foot-steering system is simple, lightweight, and effective for ocean rowboats. There's a reason why it's the most copied system. Do your boat and yourself a favor and get the original, get the best.

Communication has come a long way since the days of two tin cans connected by a piece of string. It would take lots of string to connect us with family back home while underway. Inmarsat, the world's leading provider of global mobile satellite communication, is made sure that all our education program content, voice and email connectivity were in place so rowers were never more than a phone call away from home.

Adam interviews moments before launch.
Erinn J. Hale Photography/CWF

JagaSilk's goal is to act as nodes of knowledge for the maccha world outside of Japan. JagaSilk helps define maccha, how to understand it and prepare it. They hope to effect change in the tea industry by encouraging small batches of fresh tea being imported, and hope to encourage traceability so that customers know when the tea was harvested, prepared, and where it originates. We enjoyed JagaSilk maccha throughout the voyage.

Jetboil takes a fresh design approach with their products, focusing on the specific needs of the mobile eater. For sailors and ocean rowers, it's "one hand for yourself, one hand for the boat." Thanks to the compact, integrated burner with neoprene sleeve, you're cookin' on the high seas.

JL has been supplying custom-made technical clothing to serious athletes worldwide for over 25 years. They take great pride that their garments are made in the USA using solar power and sustainable practices. Whether it's on the water, track, road or pavement, JL has the technical clothing that works for you. JL provided OAR Northwest with training sport clothing. OAR Northwest, you, your passion and JL. Nothing less.

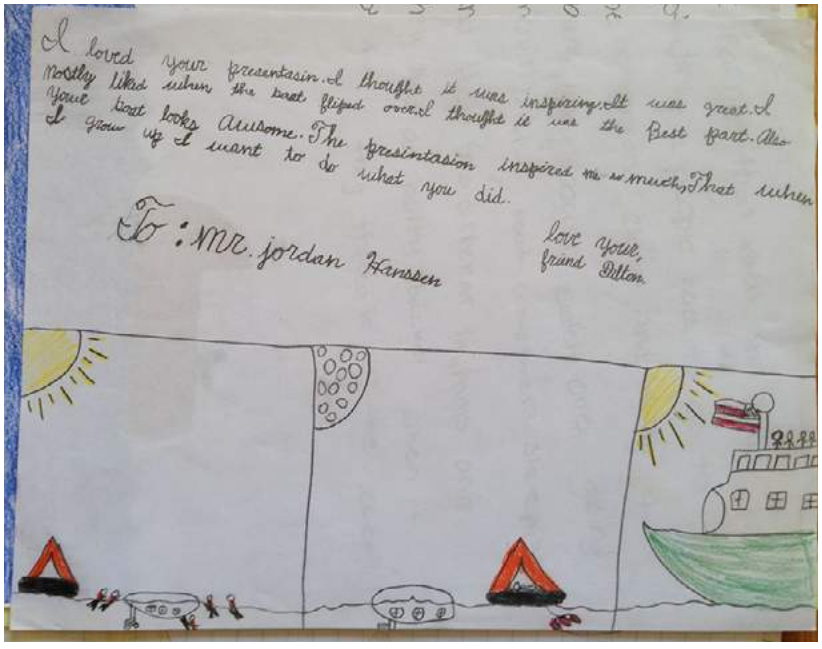
JokWear is an evolutionary sports clothing brand that will not focus on the message the brand stands for – Passion, Determination, Excellence and Benevolence. Instead, JokWear emphasizes the importance of being consumer-conscious and what it means to take leadership in giving back. The company is built to recognize and redefine what it means to be an "Athlete." JokWear provided OAR Northwest with casual sport clothing.

Dr. Ray Jarris is an Emergency Medicine Physician of 30 years at Seattle's Swedish Hospital and at MDSI Physicians group. In Pat's winter days as a ski patroller at Crystal Mountain, he's had Dr. Jarris nimbly attending to injured skiers and snowboarders. Dr. Jarris helped create our onboard medical kit, and would be on-call via satellite phone.

With 45 years of experience applying innovative technologies to practical lifesaving solutions, Mustang Survival researches, designs and produces quality lifesaving products for professional, military, and recreational users who work or play in the world's most demanding and unpredictable environments. Mustang products provide flotation and extreme climate protection to sailors, industrial marine workers, coast guards, fighter pilots, NASA astronauts, and the OAR Northwest crew.

Natural Factors has been bringing North Americans the very best natural health solutions—vitamins, minerals, herb and plant formulas and specially formulated natural solutions — for the past 5 decades. Natural Factors share your enthusiasm for natural products. The Research and Development Team consistently create efficacious, pure and potent supplements and functional foods, which the OAR Northwest team used on the expedition.

Artwork by a student who followed the trip from Irmo Elementary in South Carolina



Markus interviewed just before launch.

Shift change around.
Erinn J. Hale Photography/CWF

The NYBA is a nonprofit marine trade group founded in 1988 consisting of over 340 marine brokers, dealers and other industry professionals representing over 230 marine-related businesses in the Pacific Northwest. NYBA plays an active role in marine youth and education programs and encourages a greater interest in the welfare and safety of the boating public.

All polarized sunglasses are not created equal, but this much is clear: Oakley produces the best polarized lenses on earth. Ordinary polarized sunglasses distort your vision and they don't block nearly enough glare. OAR Northwest used polarized lenses from Oakley, including the Crosshair, Water Jacket and Bottle Rocket Sunglasses.

Sound Software, Solid Products, Soaring Service—OCENS core values, wrapped together by professionals with a common purpose and a goal of delivering satellite communication solutions that work when nothing else does. A 29-foot rowboat that travels at a walker's pace needed unfettered access to satellite weather and sea state data to avoid getting stuck in an eddy 60 miles wide.

Odin Brewing Company embraces the exploratory spirit of the ancient Vikings. These brave innovators discovered America 500 years before Columbus without the benefit of accurate sea charts or other navigational tools. They built unprecedented ships that could withstand the stormy ocean, and they forged their legacy by traversing where others dare not tread. OAR Northwest appreciates these brewers for their support of safety and communications equipment.

You can't get much more carbon-neutral than ocean rowing, right? Well, turns out it takes a lot of energy to get this boat from Seattle to Africa, then back from Miami after the row. Offsetters is Canada's leading provider of carbon-management solutions, helping organizations and individuals understand, reduce and offset their climate impact. How can you reduce your carbon footprint?

When the rowboat goes into the yard before and after each expedition, Pacific Fiberglass makes sure that holes we/others put in our boat are repaired so it is better than before. They have the tools and the experience to make every project come together smoothly, whether it's a small gelcoat repair or a major structural repair.

Made right here in Seattle, Primal Pacs are a "paleo" treat that energizes our rowing strokes and satisfies our snacking hunger with real, unprocessed jerky, nuts and fruit. Pre-packaged ocean rowing meals can be bland. These spiced up the offerings and kept morale high on those dreary flat water days.

In 2006, Captain Pat Boyle made sure that we wouldn't die on the North Atlantic. When faced with life-or-death decisions on the water, your best asset is your brain. But you need to train your brain to know what to look for to survive. Once again, we trained under the watchful eyes of Pat and Graeme at Q3 Marine Training Solutions in Anacortes, Washington, to help make sure we get home safely. Q3 Marine Training Solutions provides comprehensive training and educational programs for all seagoing personnel in order to create and maintain a competent and professional maritime work force.

When the other local guys said no, Rainier Overseas Movers said yes. They've been "taking the worry out of overseas moving since 1979." Usually helping families relocate belongings around the world, they wasted no time jumping at the challenge of moving a 29-foot ocean rowboat in its own 40-ft container to Dakar. Tag teaming with Flatrate International, we'll ship the JRH with these folks any day.

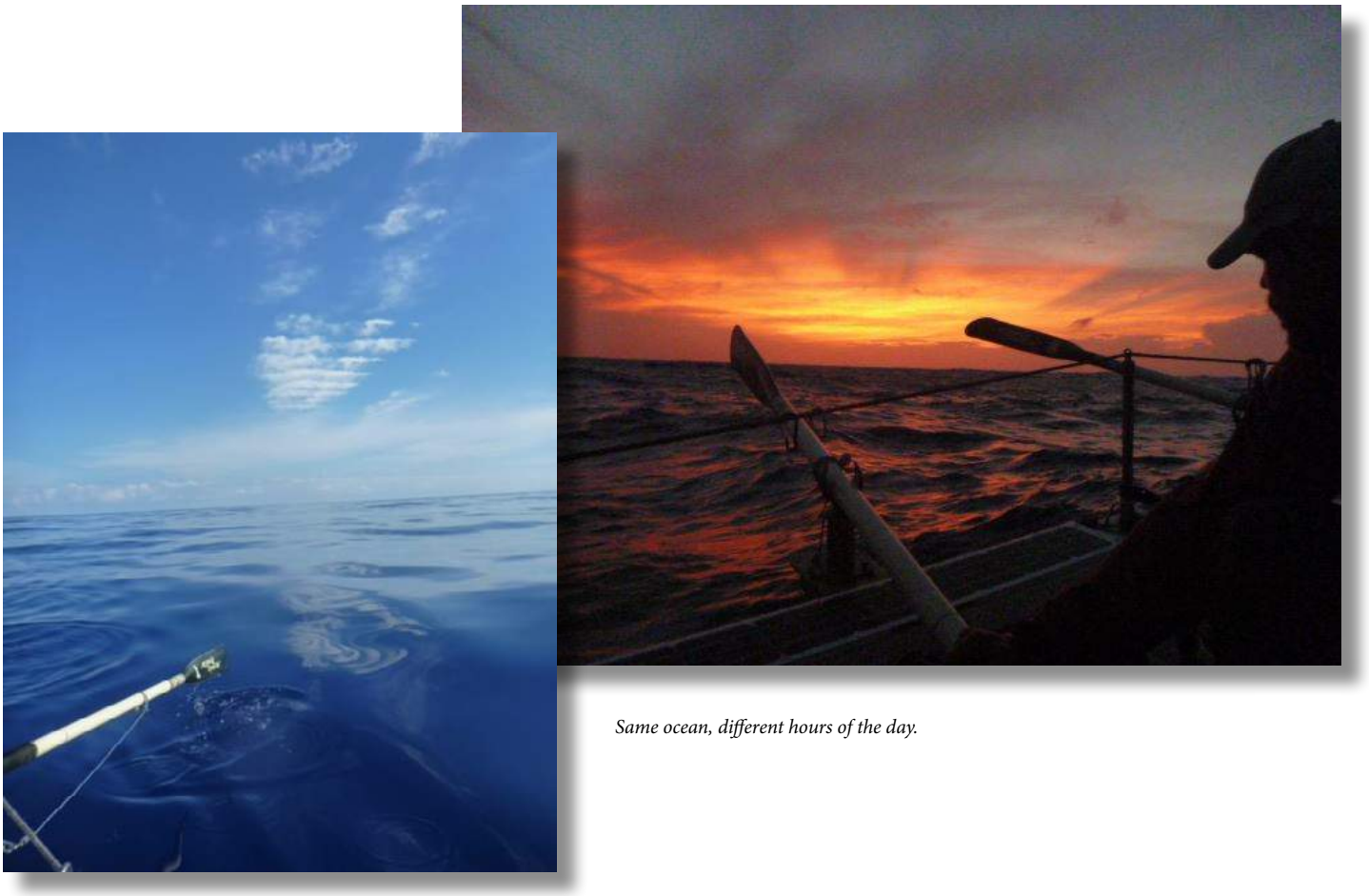
Rite in the Rain is a patented, environmentally responsible, all-weather writing paper that sheds water and enables you to write anywhere, in any weather. Their unique and hyper-durable field books, notebooks, copier papers and pens are used around the globe in situations ranging from OAR Northwest's 2006 crossing of the North Atlantic Ocean to Gorilla studies in Africa.

Rowing News, owned and operated by rowers, is the source that connects the rowing community. Each issue showcases the best of the rowing world from juniors and college programs to elite and masters around the world. For 19 years Rowing News has been the reliable news source for the rowing community. OAR Northwest is grateful for their support of ocean rowing and OAR Northwest.

Scott Plastics Ltd. is a leader in the engineering, design, mold making and plastic molding industries. Over the years they have developed a proprietary line of Scotty products and provide custom molding and tool making services to OAR Northwest and over 100 companies across North America. They are dedicated to quality, value, and service, and the expedition team used their downriggers, fishing gear and more with trust.

SendtoNews.com is a cloud-based, multimedia conduit serving a growing, global community of content creators, news outlets and leading brands. SendtoNews serves as a source for fresh story ideas and high quality, third-party content. Best of all, the content is provided to newsrooms at no charge. For OAR Northwest, governments, universities, sports teams and more, SendtoNews provides a direct link with the newsroom professionals that are important to them.

Rainy days on the ocean.



Same ocean, different hours of the day.

Sol Sunguard is right when it says that "all sunblocks are not created equal." Sol Sunguard kept four Pacific Northwest pale white guys from frying to a crisp during our record-setting campaign in the 2006 North Atlantic Rowing Race. Their Emulsion-Loc trademark technology is formulated for different sport environments. "Skin friendly, formulated for sport," and formulated for ocean rowers.

Possibly the most fun you'll ever have in an open water rowing and paddling race. Sound Rowers has given all OAR Northwest crew a chance to cut their teeth for the first time in waves, chop, wind. The people of Sound Rowers are what make this group the best. Sound Rowers Open Water Rowing and Paddling Club is an organization conducting races coordinated by volunteers for world class and weekend athletes in any open water, human-powered craft.

Streambox is a video acquisition platform for live and file-based video transport over IP. Streambox provides HD and SD software and hardware products for video compression, transmission, management, and playout. Scalable end-to-end Streambox solutions can be integrated into all IP centric broadcast and broadband operations to streamline workflows and present a reliable, cost-effective solution.

The YSI CastAway™ CTD is the world's first handheld castable instrument that provides instantaneous profiles of temperature, salinity, and sound speed. Oceanographers, hydrologists, and surveyors now have the ability to quickly collect reliable data from any dock, bridge, boat or OAR Northwest's ocean rowboat.

Official Grants Programs

The Pacific Marine Foundation supported OAR Northwest's education program for the CWF 2012-13 Expeditions. The foundation offers other nonprofit groups, such as ours, a way to utilize the benefit of vessels donated to them. By concentrating efforts in this way, and by continuing to broaden their network of generous boat donations, the foundation provides an additional level of financial assistance to OAR Northwest. Funding ensured competitive grants were made available to Seattle Public School schools to participate in OAR Northwest programs.

The VWR Foundation supported OAR Northwest expedition program for the CWF 2012-13 Expeditions. The purpose of the VWR Foundation is to support organizations and programs in alignment with our three strategic priorities: 1. RESEARCH for new innovation and drug discovery; 2. Improving HEALTH and WELL-BEING to those in need; Building greater awareness in SCIENCE EDUCATION; 3. These priorities are consistent with the synergies generated as a distributor of scientific supplies. The support given to organizations and programs can reach from across the globe to communities where contributors live and work.

Appendix

A) Photography credits for images used throughout this:

Photographer	Pages
Erinn J Hale Photography / Canadian Wildlife Federation	Cover, 2, 6 (top), 7 (bottom), 10, 11, 12, 17, 18, 19, 21, 26 (bottom), 29, 31, 32, 34, 35
Peter Boehler	3
OAR Northwest	4, 5, 9 (bottom), 13, 20, 27, 36, 37
Jordan Hanssen	5 (middle)
Erinn J Hale Photography	9 (top), 23, 24, 25
Headshot images courtesy of their respective provider	Various

B) OAR Northwest Education Program – By the numbers:

1. Delivered four modules (Boat, Body, Science, History), eight full-week lesson plans, tenExpedition Reports, 36 daily updates.
    a. All posted online at *oarnorthwest.com*, *facebook.com/oarnorthwest*, *twitter.com/oarnorthwest*, and sent to proprietary teacher/educator email database
2. Ten online webinars reaching over 20,000 students and educators (in conjunction with the Canadian Wildlife Federation)
3. 10,296 unique page views (oarnorthwest.com/education)
4. Participating classrooms in North America, Africa, Spain, United Kingdom, New Zealand

C) Traditional Media, Website, Social Media, and public reach (as of June 2, 2013):

1. 137,972 visitors to oarnorthwest.com since developing the Canadian Wildlife Federation-OAR Northwest partnership
    a. 36,000 referred from social media sources
    b. Visitors from 182 countries world-wide
    c. 347,915 total page views
2. Facebook: 2,536 likes
3. Twitter: 1,099 followers
4. Klout Score™: 65
    a. Klout Score™ is a social media analytics ranking that measures online influence using a numerical value from 1-100. In determining the user score, Klout™ measures the size of a user's social media network and correlates the content created to measure how other users interact with that content.

b. CWF: 55

c. Adam Kreek: 51

d. Markus Pukonen: 46

e. Justin Bieber: 74

5. In excess of 80 stories, articles, and interviews in traditional media

    a. Highlights include: NBC Today Show, CBC The National, ESPN.com, Outside Magazine, Sportsnet Magazine

    b. Read and watch more at oarnorthwest.com/about/press

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Africa to the Americas Expedition

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