

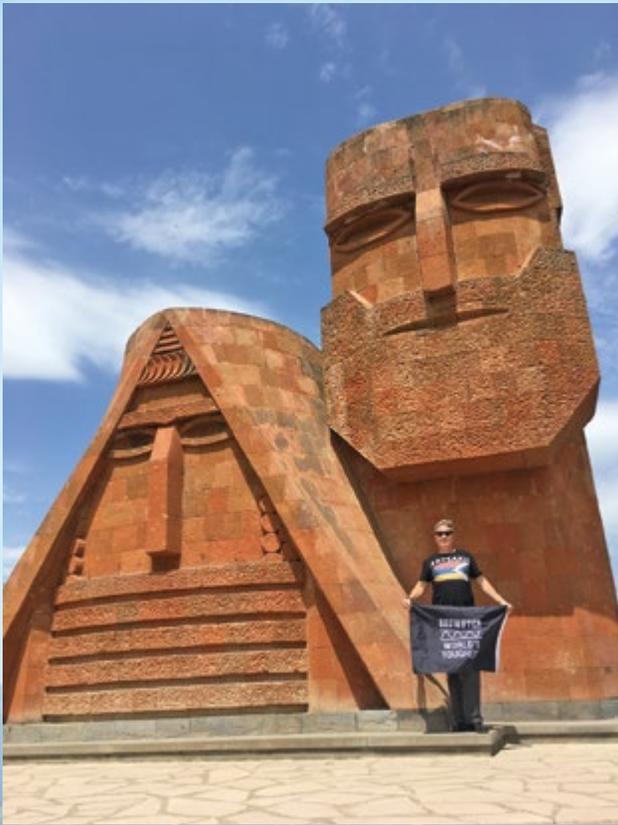
BADWATER®



March 2019

Explore Artsakh!

The Mountainous Republic of Artsakh is a democratic Christian Armenian nation located just east of Armenia itself. It's a gorgeous place with trails and pathways dating back literally thousands of years traversing pristine lands and passing through towns and villages, ancient sites, natural wonders, Christian churches dating as far back as the 4th Century AD, the historic city of Shushi, the gorgeous capital city of Stepanakert, and so much more. Artsakh is just a short flight from Europe and well worth the trip from all the corners of the globe!



For more info, visit www.artsakh.travel

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"Out There Since 1984"



Welcome to the Spring issue of BADWATER® Magazine and the Badwater® Cape Fear Ultramarathon!

With 50km and 51-mile race options, our Badwater® Cape Fear Ultramarathon features a twelve-mile warm-up on the car-free, one-lane-wide roads of Bald Head Island, followed by either 19 or 39 miles of running on the wild and secluded sandy beach between Cape Fear and Fort Fisher. The race is held along the Atlantic Seaboard with spectacular views of the Frying Pan Shoals to the east and wild and undeveloped marshlands to the west. Running this remote coast is a dramatic, invigorating, and inspiring manner in which to experience the Cape Fear region in all its grandeur!

What's more, Bald Head Island and Fort Fisher Recreation Area both welcome this unique event with open arms every year and are excited to have us return. Honestly, I have never met friendlier or more helpful people than the North Carolinians. This is a dream venue for this event promoter!

The folks at Bald Head Island Conservancy – Chris Shank, Poul Lindegaard, and Amber Walters in particular – have been ongoing sources of insights and wisdom and it has been an absolute pleasure to learn about, and support, the outstanding and important work that the Conservancy is doing on the island and beyond.

The staff at Village of Bald Head Island has been extremely supportive, as has all the staff with VBHI Public Safety, who are out in force to help us host a safe and successful race. Equally I thank Jeffrey T. Owen, Park Superintendent, and the rest of his staff, at Fort Fisher State Recreation Area for their support of the event and their management and oversight of the vast majority of the beach stretches of the race route. Likewise for the Friends of Pleasure Island State Parks with whom we began a wonderful relationship in 2017!

Local businesses have been very supportive, too: Claude Pope and his team at Maritime Market – including Holly Fauble, Chef Marc, and Chef Radar - cater the pre-race social mixer, finish line food, and post-race breakfast. Local home rental experts including Trisha Howarth of Bald Head Island Limited, Tiffany Williams with Tiffany's Beach Rentals & Sales, Rick Nelson with Seabreeze Rentals, and Wendy Wilmot of Best of Bald Head Properties have all offered up their best possible rates and finest properties for the race entrants and their families and friends to enjoy. Andrea Pitera and her team at Mojo's always roll out the red carpet, too.

Our friends in Southport, just across the Cape Fear River from Bald Head Island, have also been very helpful, as have other NC mainlanders: Eleanor Erickson manages the Hampton Inn in Southport and has extended a special rate; she volunteers every year on race day with her son Jack. Other race day volunteers include Scott Kollins and Keith Weitz of Durham, both five-time finishers of our Silver State 508 ultracycling race in Nevada, Emily Ryan, Robert and Julie Lee, as well as others from Bald Head Island,



Chris Kostman with some of the team that made the magic happen in 2018.



Chris with the legendary Jay Birmingham in 2018.

Southport, and the greater Wilmington area and beyond: we thank all of them for making this race super memorable and a great experience for everyone!

We hope you enjoy this magazine, and the remarkable experience it documents!

Yours in sport,

Chris Kostman

Chief Adventure Officer and Race Director





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Flip this magazine over for the May / Salton Sea edition of BADWATER Magazine!

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"Out There Since 1984"



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Cover: While Old Baldy Lighthouse celebrated its bicentennial in 2018, we celebrated five years of hosting Badwater Cape Fear on Bald Head Island, North Carolina! Here are the 2018 runners getting underway with first time Badwater runner Sarah Shearer front and center. A field of 179 runners from six countries and twenty-nine American states competed, with 61 of 62 runners completing the 50km race and 113 of 117 runners completing the 51-mile race. One of those finishers was the legendary Jay Birmingham, age 72, the second man to ever run the Badwater - Whitney course (back in 1981), the 2003 Badwater Hall of Fame inductee, and 2004 Badwater 135 finisher. See his photo on P1 and P2. Cover Photo by Robert Lee II of BeamCatchers.com.

Photos courtesy Robert Lee II, Chris Kostman, Meredith Dolhare, Bald Head Island Conservancy, and others. Design and Layout by Kevin Fung, kevin@kfungdesign.com





Friends of Pleasure Island State Parks (FPISP) is a nonprofit group that is responsible for raising money for the two North Carolina State Parks on Pleasure Island: Carolina Beach State Park and Fort Fisher State Recreation Area. FPISP was founded in 2015 and raises money through donations, events at both parks, and membership dues. Through the last few years of existence, FPISP has been able to buy much needed items for both State Parks that they aren't able to get from the state. Any donation made to FPISP goes right back to the parks! FPISP supported the 2017 Badwater Cape Fear with volunteers at the mid-beach checkpoint, and will do the same in 2018. Last year, Badwater purchased a custom-made FPISP pop-up canopy for us to use at all our special events, including Badwater Cape Fear! Learn more at www.facebook.com/FPISP

FRIENDS OF PLEASURE ISLAND STATE PARKS 2019 MEMBERSHIP APPLICATION

Name: _____ Phone: _____

Address: _____

\$10.00 FPISP Annual Membership x _____ = \$ _____

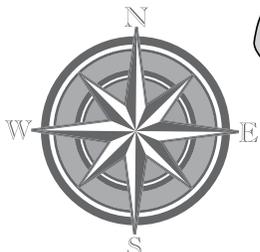
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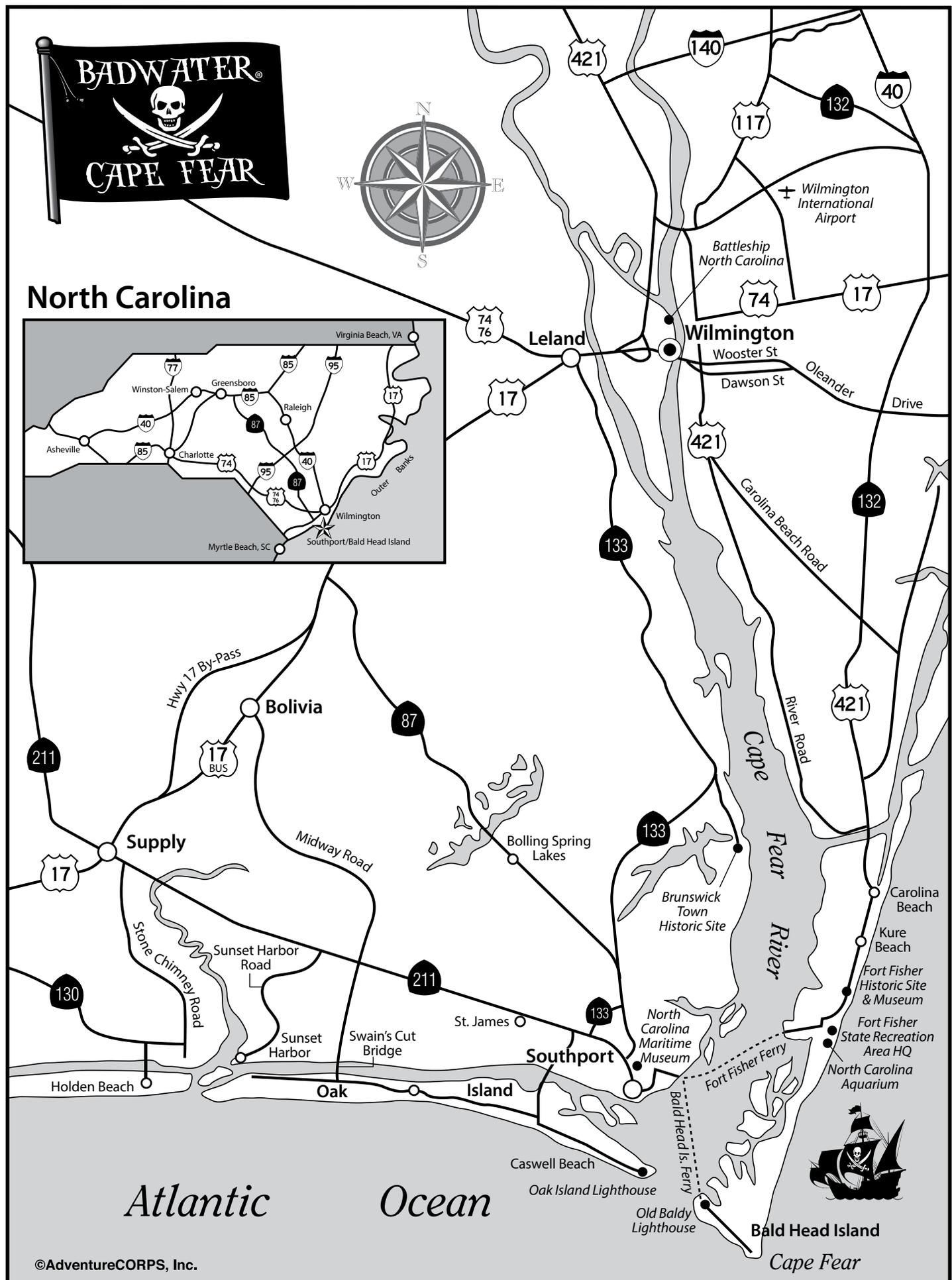
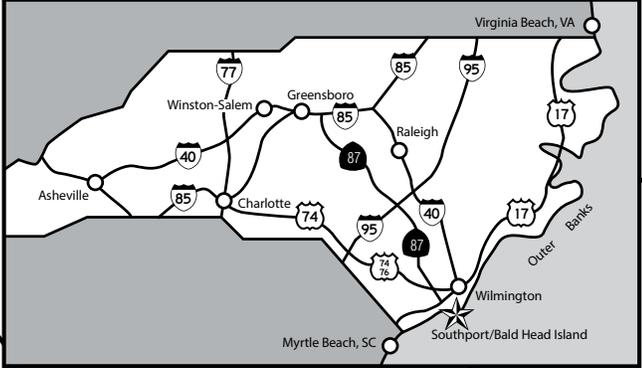
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PO BOX 475, CAROLINA BEACH, NC 28428



North Carolina



Atlantic Ocean

Bald Head Island
Cape Fear

2019 SCHEDULE OF EVENTS**Friday, March 15**

900am: No Host Coffee / Breakfast Meet-Up at Maritime Market. Come meet, or reconnect, with fellow Badwater family members while enjoying good drinks and food! There's no better way to start the day!

Suggestions: Enjoy a program with BHIC! Climb to the top of Old Baldy Lighthouse! (The race will start at its foot and the view from up top is not to be missed! Info at OldBaldy.org)

300-500pm: Semi-Mandatory Racer Check-In at Bald Head Island Conservancy (BHIC). Location: 700 Federal Road (far eastern end of the island).

ALSO 300-500pm: Social Mixer with drinks at Bald Head Island Conservancy (BHIC) for all runners, staff, family, and friends. Held concurrent with Racer Check-In.

600pm onwards: \$10 Pasta Feed at Mojo's on the Harbor (no host).

Saturday, March 16

337am: High Tide

600am (recommended) or 700am (risky): Runners not staying on Bald Head Island must depart via ferry from Deep Water Marina in Southport. (Ferries depart hourly from SPT to BHI on the hour from 600am to 1100pm on Saturdays.)

620am: Sandpiper Coffee at Bald Head Marina opens extra early just for the runners and race fans coming over on the 600am ferry! Stop in for java and treats!

656am: Morning Twilight (First light in sky)

715am: Late Check-In at the start line for runners who did not come over on Friday to do so.

721am: Sunrise

725am: 700am ferry from Southport arrives; it is a ten-minute walk from the ferry to the race start line at the lighthouse. Hurry!

745am: Race starts at Old Baldy Lighthouse

915am: First runners pass the 12-mile mark at BHIC.

1025am: Low Tide

1155am (app.): First runners return to BHIC at 50km mark

230pm (app.): First 51.4-mile finishers

345pm: Mandatory Cut-Off for 51.4-mile finishers to depart BHIC at mile 32 for their second loop to and from Fort Fisher

422pm: High Tide

445pm: Mandatory Cut-Off for Officially Finishing the 50km Race (9 hour time limit)

719pm: Sunset

745pm: Evening Twilight (Last light in sky)

945pm: 51.4-mile Race Course Closes at BHIC (14 hour time limit)

1031pm: Low Tide

1130pm: Final ferry departure from Bald Head Island. (Ferries depart hourly from BHI to SPT on the half hour from 630am to 1130pm on Saturdays.)

Sunday, March 17

830-1000am: Breakfast Buffet at Maritime Market, mid-island: Breakfast is complimentary for all registered racers and volunteers, and available for a nominal charge to all family and friends. EVERYONE, PLEASE ATTEND!

BHI CONSERVANCY PROGRAMS

Our friends at the BHIC offer interesting programs for children, grown-ups, and even ultra runners every day, so visit BHIC.org for the schedule and to register!

**MARITIME MARKET**

Location: 8 Maritime Way. Mid-island, near North Bald Head Wynd / Federal Road and Muscadine Wynd.

Main Number: 910-457-7450. Orders to-go, including pizza, family meals and platters: press 2, or dial direct: 910-269-2850. Online at maritimemarketbhi.com

Market Hours:

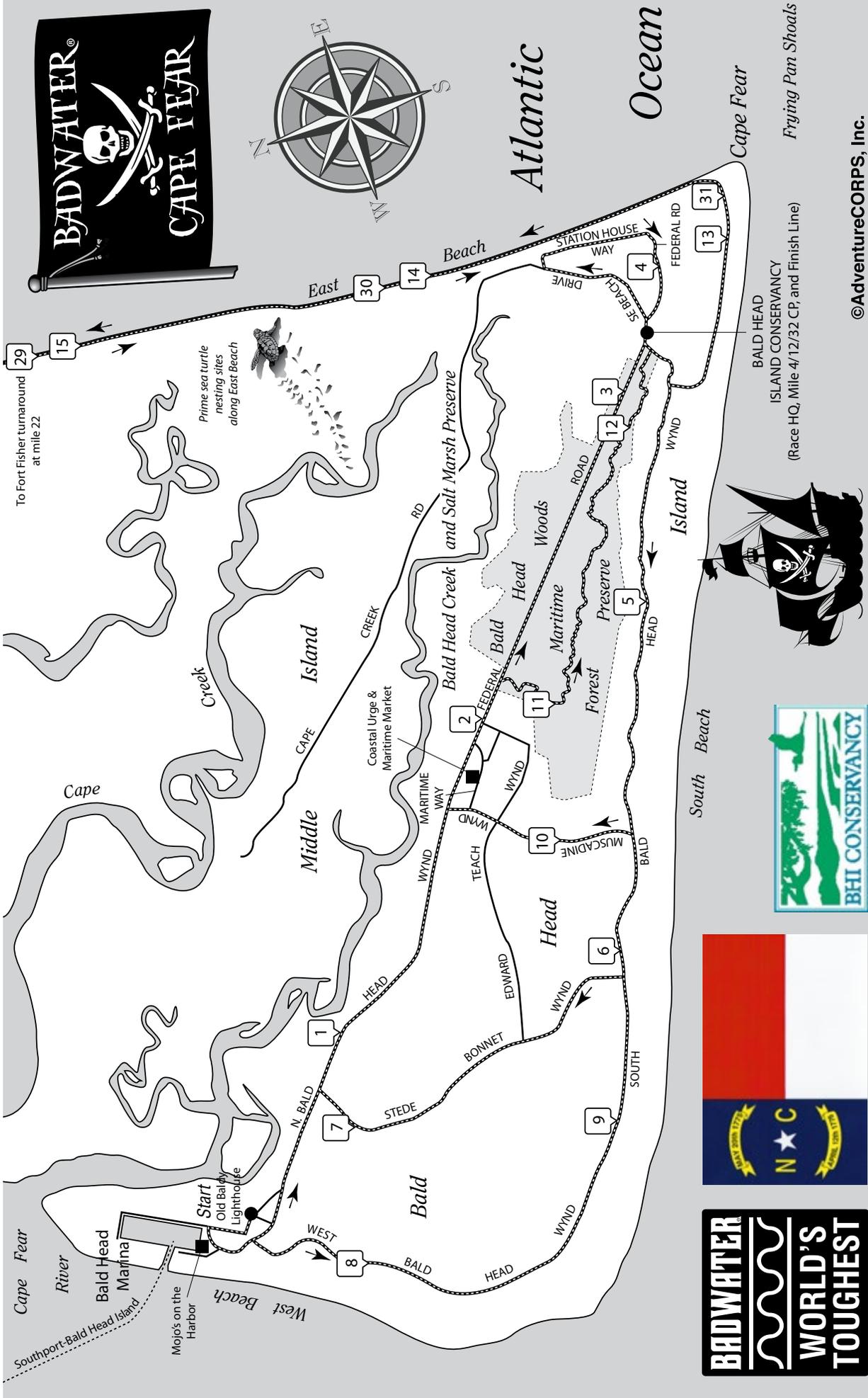
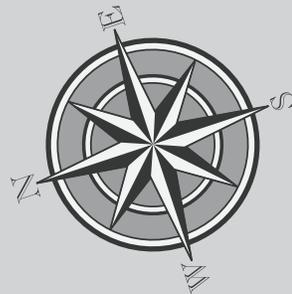
800am - 600pm, Monday-Saturday

800am - 200pm, Sunday

Cafe Breakfast: 800am - 1030am

Cafe Lunch: 1130am - 200pm

Cafe Pizza: 1130am - 200pm



To Fort Fisher turnaround at mile 22

Prime sea turtle nesting sites along East Beach



BALD HEAD ISLAND CONSERVANCY (Race HQ, Mile 4/12/32 CP, and Finish Line)

Frying Pan Shoals

©AdventureCORPS, Inc.

BADWATER CAPE FEAR ROUTE LANDMARKS

<i>Distance (ml.)</i>	<i>Landmarks</i>	<i>2nd Lap Distance</i>
0.0	Start at Old Baldy Lighthouse <i>Cross over creek bridge, then head east across island</i>	
3.2	CP1: Pass Race HQ at Bald Head Island Conservancy <i>Loop around east end of island via Station House Way</i>	
4.1	CP2: Pass Race HQ at Bald Head Island Conservancy Head west on South Bald Head Wynd	
6.1	Right / north on Stede Bonnet Wynd	
7.2	Left / west on North Bald Head Wynd	
7.6	Left / south on West Head Wynd	
8.6	Becomes South Bald Head Island Wynd (east)	
9.8	Left / north on Muscadine Wynd	
10.3	Right / east on North Bald Head Wynd / Federal Road	
10.8	Right / south onto North Carolina Coastal Reserve trail	
10.9	Stay left at Loop Trail sign	
11.0	Stay left onto Middle Trail	
11.6	Hard right onto East Trail	
12.15	Turn left at the end of trail onto road	
12.17	Turn right at stop sign	
12.21	CP3: U-turn at Race HQ at Bald Head Island Conservancy	(31.8) CP7
12.25	Head west, briefly, on South Bald Head Wynd	(31.84)
12.45	Turn left onto South Beach at Beach Access	(32.04)
12.55	Turn left / east onto South Beach	(32.14)
13.15	Turn left / north at Cape Fear onto East Beach	(32.74)
14.05	Pass final / northernmost BHI staircase / house	(33.64)
14.65	Bald Head State Natural Area sign in dunes	(34.24)
17.85	CP4: Enter Fort Fisher State Rec area beach fishing zone <i>NOTE: 4x4 vehicles possible (generally parked) and fishing lines on route</i>	(37.44) CP8
18.85	"Crossover 4" sign	(38.44)
19.8	"Crossover 3" sign	(39.39)
21.25	"No Vehicles Beyond This Point" sign	(40.84)
21.95	Turn left / west to Fort Fisher Ranger HQ wooden pathway	(41.54)
22.0	CP5: U-Turn at Fort Fisher Ranger HQ	(41.59) CP9
22.75	Enter Fort Fisher State Rec area beach fishing zone <i>NOTE: 4x4 vehicles possible (generally parked) and fishing lines</i>	(42.34)
24.25	"Crossover 3" sign	(43.84)
25.15	"Crossover 4" sign	(44.74)
26.18	CP6: End Fort Fisher State Rec area beach fishing zone	(45.77) CP10
30.0	Pass first / northernmost BHI staircase / house	(49.59)
30.4	Pass beach access, life preserver, 911 phone	(49.99)
30.9	Pass life preserver signpost at Cape Fear	(50.49)
31.55	Exit beach at Beach Access 35	(51.14)
31.65	Turn right onto South Bald Head Wynd	(51.24)
31.8	CP7: U-turn at Race HQ at Bald Head Island Conservancy <i>Repeat miles 12.21 to mile 31.8 as above, for a total of 51.4 miles (Second lap mileages are listed above in parentheses in the far right column.)</i>	(51.39) FINISH

COURSE RECORDS

First	Last	M/F	State	Year	Distance	Age	Age Grp	Record Time
Ryan	Lange	M	NJ	2017	51.4mi	19	10+	9:45:00
Michael	Borst	M	WI	2015	51.4mi	21	20+	6:29:00
Daniel	Waldschmidt	M	SC	2018	51.4mi	39	30+	7:05:00
Eric	Hunziker	M	OH	2017	51.4mi	47	40+	6:53:26
Mark	Matyazic	M	CA	2016	51.4mi	51	50+	7:36:00
Keith	Straw	M	PA	2016	51.4mi	60	60+	8:21:00
Leigh	Jackson	F	NC	2017	51.4mi	29	20+	7:50:24
Micah	Morgan	F	AL	2017	51.4mi	34	30+	7:42:02
Suzi	Swinehart	F	IN	2018	51.4mi	45	40+	7:47:00
Patsy	Ramirez-Arroyo	F	PR	2018	51.4mi	52	50+	8:22:00
Pamela	Chapman-Markle	F	TX	2017	51.4mi	61	60+	10:14:02
Thad	Johnson	M	NC	2017	50km	17	10+	5:21:00
Keith	Hanson	M	SC	2016	50km	29	20+	5:07:00
Nathan	Wick	M	DC	2016	50km	30	30+	4:16:00
Mark	McGeough	M	NC	2015	50km	45	40+	4:38:00
Brett	Sobieraski	M	NY	2017	50km	53	50+	4:54:00
Roger	Lyons	M	OH	2016	50km	63	60+	6:07:00
Bob	Becker	M	FL	2016	50km	70	70+	6:58:00
Whitney	Conklin	F	NC	2017	50km	28	20+	6:16:00
Addie	Green	F	FL	2015	50km	35	30+	4:54:00
Suzanne	Tulsey	F	NC	2017	50km	42	40+	4:37:00
Yoshiko	Jo	F	PA	2018	50km	53	50+	5:40:00



GENERAL RACE RULES

1. The clock, and the race, start at 745am for all entrants.
2. There are only two divisions: men's and women's, and two distances: 50km and 51mi.
3. The clock does not stop for any reason until the race course officially closes after 14 hours.
4. Wear your assigned race number on the front of the body, visible at all times.
5. All runners are strongly encouraged to carry a cell phone at all times.
6. All runners should keep in mind that the race route is largely remote and aid is provided at just three locations along the route; carrying water and food at all times is strongly encouraged.
7. All running while on pavement must always be single file, on the far left side of the road. Be careful of, and courteous towards, golf carts, shuttles, bicycles, and other vehicles and pedestrians.
8. Please make your presence known at the three checkpoints located along the route, each time you pass them.
9. Runners must progress under their own power without drafting, helping, pushing, supporting, or any other type of physical assistance. Racers may only be accompanied by fellow racers. (No pacers are allowed and no outside assistance of any nature may be received except at the Bald Head Island Conservancy checkpoint, except in an emergency)
10. Remember, at all times and in all situations, safety is the most important issue. This means safety for racers, volunteers, staff, and the general public. The roads and beaches are not closed for this event.
11. Please do not litter, mar, or pollute the landscape or environment.
12. Please must display courtesy, good taste, decorum, and sportsmanship at all times.
13. In all cases and circumstances, it is the intent, and spirit, of the rules which will govern their implementation and enforcement.
14. The range of possible penalties for breaking or disregarding rules include time penalties, disqualification, public shunning, loss of friends, humiliation, and/or being forced to swim back to Southport.

Time Limits

1. The time limit for the 50km race is nine hours.
2. The time limit for the 51mi race is fourteen hours, with a mandatory intermediate cut-off of eight hours at mile 32 at BHIC. 51mi racers who arrive at mile 32 in more than eight hours (and in less than nine hours), will be recategorized as 50km racers and ranked accordingly.
3. Racers may change distances during the event, switching from 50km to 51mi, or vice-versa, so long as time cut-offs and limits are respected.

Leaving the Course or Withdrawing

1. Short cutting is not allowed. There will be no allowance made for lost time or miles run in the wrong direction.
2. Do not "go missing." If you must withdraw from the race, please let us know.
3. All Emergency Evacuation costs for participants will be borne by that person or their heirs. The race organizers are in no way liable or responsible for emergency evacuation.

Legal and Bureaucratic Issues

1. All racers and must sign the Accident Waiver and Release of Liability / Release of Name and Likeness.
2. All racers must attend Racer Check-In.
3. All racers must be willing to submit to a drug urine test before (at any point prior to the race, after being officially confirmed for entry), during (at any time), or after the race (up to 90 days after the conclusion of the race). If any WADA banned substances are detected, the racer will be disqualified from competition, listed as **DISQUALIFIED FOR DOPING** in the final standings of the race, and banned for life from any AdventureCORPS event. Refusal to submit a urine specimen upon demand will also result in the racer being disqualified from competition, being listed as **DISQUALIFIED FOR DOPING** in the final standings of the race, and being banned for life from any AdventureCORPS event.
4. The Race Director has the authority, at any time, to overrule any rule or invent a new rule based on extenuating, unforeseen, and/or unusual circumstances and/or to maintain the integrity and fair play necessary for the successful completion, and continuation, of the race. The Race Director has ultimate authority in regards to all rules, their interpretation, and their enforcement. There is no "appeals committee" nor an "appeals process." All entrants in the race willingly acknowledge this fact, as well as all other race rules, by attending the race in any capacity.



About Cape Fear

Cape Fear is a prominent headland jutting into the Atlantic Ocean from Bald Head Island on the coast of North Carolina in the southeastern United States. It is largely formed of barrier beaches and the silty outwash of the Cape Fear River as it drains the southeast coast of North Carolina through an estuary south of Wilmington.

Cape Fear is formed by the intersection of two sweeping arcs of shifting, low-lying beach, the result of longshore currents which also form the treacherous, shifting Frying Pan Shoals, part of the Graveyard of the Atlantic.

Dunes dominated by sea oats occur from the upper beach driftline back to the stable secondary dunes, where they mix with other grasses such as Saltmeadow Cordgrass and panic grass, as well as seaside goldenrod, spurge and other herbs to form a stable salt-tolerant grassland.

The Cape Fear estuary drains the largest watershed in North Carolina, containing 27% of the state's population.

Giovanni da Verrazzano, the Italian explorer sailing for France, made landfall after crossing the Atlantic at or near Cape Fear on March 1, 1524.

The name comes from the 1585 expedition of Sir Richard Grenville. Sailing to Roanoke Island, his ship became embayed behind the cape. Some of the crew were afraid they would wreck, giving rise to the name Cape Fear.[1] It is the fifth-oldest surviving English place name in the U.S.[2]

Cape Fear was the landing place of General Sir Henry Clinton during the American Revolutionary War on May 3, 1775. The 1962 movie Cape Fear and its 1991 remake were set at Cape Fear.

The legend of Cape Fear lives on with BADWATER® CAPE FEAR!

Source: Wikipedia



The first lighthouse on Smith Island was the Bald Head Light, completed in 1795. It was on the banks of the river at the island's southwest point and was quickly threatened by erosion. It was pulled down in 1813 and a new lighthouse was commissioned to replace it. In 1817, Daniel S. Way built the new lighthouse, "Old Baldy," for \$15,915.45. Old Baldy was always intended to light the mouth of the Cape Fear River and was never intended to illuminate the Frying Pan Shoals off the Cape.

Old Baldy was built of soft red bricks, many of which were reused from the first lighthouse, then covered with a plaster mixture of sand and lime. The 110 foot tower is an octagon with walls five feet thick at the base. During its active life, the lighthouse was whitewashed on a regular basis. The lantern, or lantern room, made of iron, copper, and glass, came from the first lighthouse as well. It is offset to allow for more support and to accommodate the keeper, who had to clean and make repairs to the outside. The original fixed light was powered by 15 lamps. It was built as a parabolic reflector with hollow wick lamps, fueled by whale oil, and arranged on a metal rack.

Over the years, Old Baldy's light changed as a signal. In 1834, a new mechanism was installed to flash red with a 30-second delay. During the Civil War, the light was darkened, but was relit in 1879 with new Fresnel lenses, a revolutionary design that produced powerful parallel beams of light. In 1893, the light was changed to white and new lenses installed. In 1903, it became a "fourth order" fixed light. Old Baldy was deactivated in 1935, and for a brief

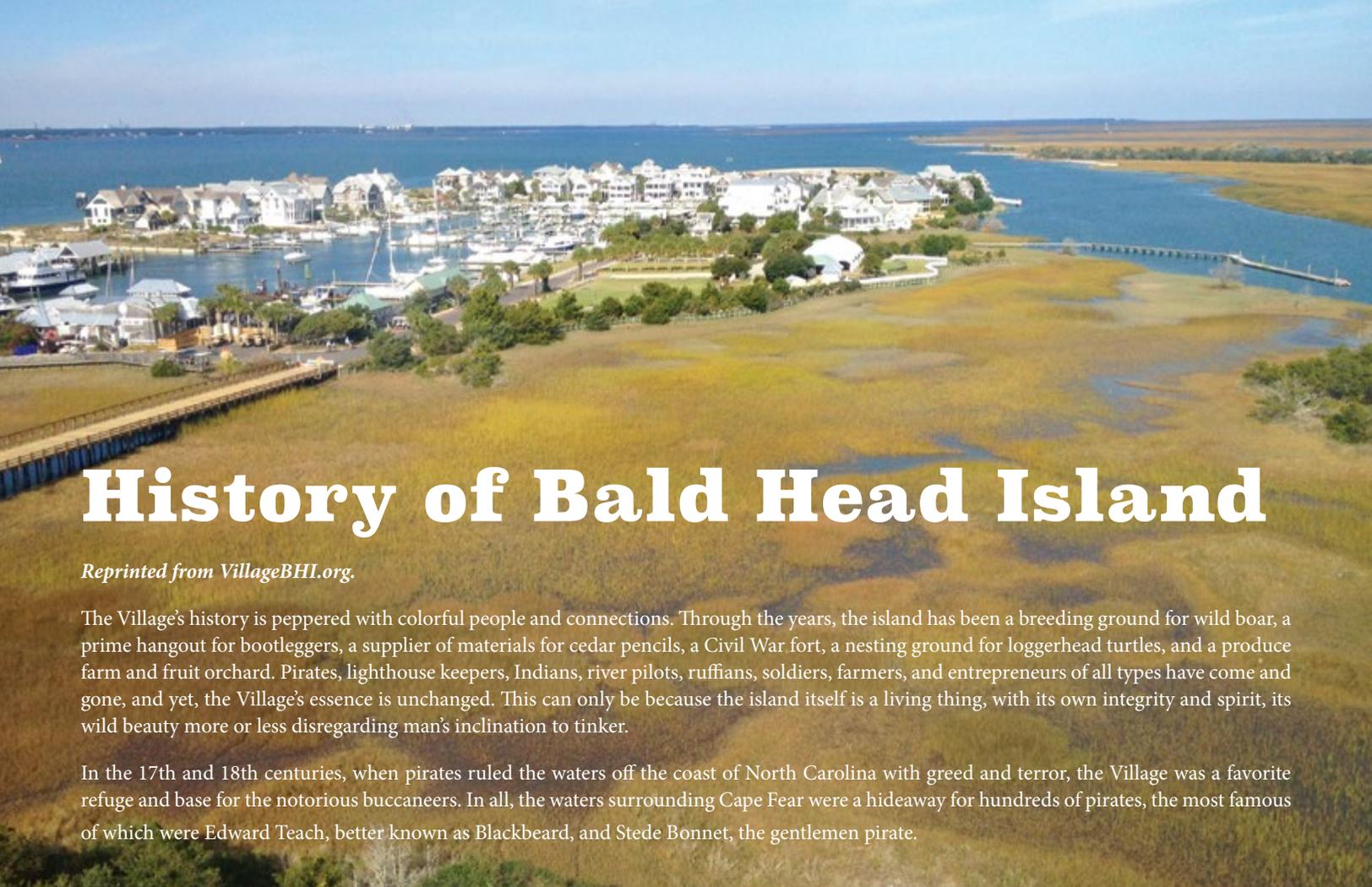
period served as a Coast Guard radio tower before being abandoned to the elements.

Old Baldy was listed on the National Register of Historic Places in 1975. In 1985 a group of dedicated individuals founded the Old Baldy Foundation, a public not-for-profit 501-c3 organization dedicated to the maintenance and preservation of Old Baldy Lighthouse. The Old Baldy Foundation is governed by an eleven member board of directors and managed by an executive director. The lighthouse and property on which Old Baldy stands and the current Smith Island Museum were deeded over to the Old Baldy Foundation by the Mitchell Family in 1987.

For years visitors to Old Baldy could climb literally "at their own risk". In 1991 the Old Baldy Foundation launched a campaign, "Steps to the Top", to repair the steps to the top of the lighthouse. Between 1991 and 1995 Old Baldy Foundation raised over \$125,000 for renovation efforts.

In 1997 plans were developed to recreate one of the three keepers' cottages that stood on the site. The Old Baldy Foundation undertook a loan to finance the building of this one and a half story building. It now holds a small gift shop, museum exhibits and office space for staff. In 2000, upon opening this museum and gift shop the Old Baldy Foundation started to charge admission to see the museum and climb Old Baldy. Those fees, and the proceeds from the gift shop, are set aside for maintenance and long term preservation work.

To learn more and to support Old Baldy, visit Oldbaldy.org



History of Bald Head Island

Reprinted from VillageBHI.org.

The Village's history is peppered with colorful people and connections. Through the years, the island has been a breeding ground for wild boar, a prime hangout for bootleggers, a supplier of materials for cedar pencils, a Civil War fort, a nesting ground for loggerhead turtles, and a produce farm and fruit orchard. Pirates, lighthouse keepers, Indians, river pilots, ruffians, soldiers, farmers, and entrepreneurs of all types have come and gone, and yet, the Village's essence is unchanged. This can only be because the island itself is a living thing, with its own integrity and spirit, its wild beauty more or less disregarding man's inclination to tinker.

In the 17th and 18th centuries, when pirates ruled the waters off the coast of North Carolina with greed and terror, the Village was a favorite refuge and base for the notorious buccaneers. In all, the waters surrounding Cape Fear were a hideaway for hundreds of pirates, the most famous of which were Edward Teach, better known as Blackbeard, and Stede Bonnet, the gentlemen pirate.

Bonnet, the so-called "Gentlemen Pirate" from Barbados, was an educated retired military officer who turned to piracy in 1717 as a second career in order to escape what one historian tactfully referred to as "the discomforts he found in a married state." During his short stint as a pirate, Bonnet terrorized the Carolina and Virginia coasts aboard his sailing sloop *Revenge* with 10 guns and 70 men. For a brief time, Bonnet even linked up with Blackbeard, a pirate who never carried the title "gentlemen." In 1718 Blackbeard was cornered and killed aboard his sloop, *Adventure*, by two warships sent by the governor of Virginia. Just three weeks later, Bonnet was captured at Bonnet's Creek in Southport by Colonel William Rhett of South Carolina and hanged near Charlestown. Their deaths marked a dramatic end to the Golden Age of Piracy in North Carolina.

Long before pirates ever discovered the Village's nooks and crannies, Native Americans hunted Bald Head Island and fished its surrounding waters in the spring and summer while maintaining permanent settlements on the mainland. The island was, in effect, a seasonal retreat for the Native Americans when supplies of corn or grain began running low.

Early river pilots were responsible for giving the Village its unique and descriptive name. Eager to offer their navigational services to

ships approaching the entrance to the Cape Fear River, they took up watch on a high dune headland on the southwest point on the island. According to local lore, the headland was worn bare of vegetation, making it stand out in contrast to the forest behind it. This "bald" headland served as a reference point for ships entering the river, and the name Bald Head Island has endured.

The year 1817 saw the construction of the island's most revered landmark and symbol, Old Baldy Lighthouse. Still the island's only "high rise," Old Baldy lighthouse was the second of three lighthouses built on Bald Head Island, and is the only one remaining. In 1903, the lighthouse was decommissioned when the Cape Fear Light was erected on the eastern end of the island, but it still serves as a prominent day marker for mariners. Due to restoration efforts by the Old Baldy Foundation and the generosity of hundreds of contributors, visitors to North Carolina's oldest lighthouse can climb up her 108 steps for a spectacular panoramic view of Bald Head Island.

The foundation of the Cape Fear Light can still be seen at the end of Federal Road across from three lightkeeper's cottages known as Captain Charlie's Station, after Captain Charles Norton Swan, a lighthouse keeper who lived with his family on Bald Head Island from 1903 until 1933. Captain Charlie's Station is listed in the

National Register of Historic Places, and still commands a sweeping view of the dunes and sea at the island's southeastern point.

In addition to lightkeepers, in the late 19th and early 20th centuries the island was home to members of the U.S. Lifesaving Service, the predecessor to the modern day Coast Guard. Several buildings on the southeastern shore of the island overlooking Frying Pan Shoals served as equipment storage and housing for the servicemen. The only remaining Lifesaving Station structure is a boathouse that was moved from the beachfront to back among the dunes where it is now a private residence.

Another symbol of the past presence of lightkeepers and lifesaving servicemen on the island is the Old Boat House on Bald Head Creek, built in 1903 to store supplies and boats. A dramatic change in the shape of the creek channel over the last ninety years makes it appear to have moved several hundred yards.

The most notable feature on the 1864 Blackford map (established by B.L. Blackford) was Fort Holmes, located on the Bald Head promontory at the southwest corner of the island. Most of what we know regarding the fort can be gathered from a detailed sketch of its layout prepared in 1865. In addition, several firsthand accounts prepared by officers at Fort Holmes are extant. The fort had been hurriedly erected in 1863 and 1864 as part of a defense system for the lower Cape Fear. The string of forts from Bald Head to Wilmington kept the river, the "lifeline of the Confederacy," open for blockade runners. Given the presence of two navigable entrances, that at Bald Head and a second above Smith Island at New Inlet, the river was ideal for such traffic.

The sketch of Fort Holmes prepared by Federal occupation forces in 1865 indicates that the earthen breastworks extended the width of the island from the lighthouse to the southwest tip at Bald Head. A road to the opposite end of the island ran through the upper part of the fort. The earthen works, it was noted, were reinforced with



palmetto and oak logs. Four batteries extended along the east side of the fort. The fifth and largest, Battery Holmes, with bombproof magazines, was at the island's southwesternmost point. A flagstaff was positioned on the Bald Head promontory. Quarters and storehouses were located in several spots inside the fort.

Despite subtle shifts in sand and sea, Bald Head Island remains much as it was centuries ago. It still serves as a natural sanctuary for educators and students interested in coastal ecology, a home for a special breed of permanent residents that share a kinship of spirit with the hardy, independent lightkeepers and servicemen of days long past, and a refuge for vacationers seeking privacy and rejuvenation in a beautiful, relaxed setting.





Barrier Island Conservation • Preservation • Education

The Bald Head Island Conservancy is a non-profit organization that was founded in 1983. The Conservancy's mission is barrier island conservation, preservation and education. It is located in a unique area within the Smith Island Complex which includes Bald Head, Middle, and Bluff Islands, all of which are bounded by the Cape Fear River and the Atlantic Ocean.

The Conservancy sponsors and facilitates scientific research that benefits coastal communities and provides numerous recreational and educational activities to the public. In coordination with various organizations, partnerships and collaborations, the Conservancy has led the nation in conservation and research efforts and is uniquely poised to become a leader in Barrier Island Conservation world-wide.

As a subsidiary corporation and partner of the Conservancy, The Smith Island Land Trust complements these efforts by preserving significant properties in perpetuity, ensuring that land within the island complex will be forever protected in its natural state.

As a 501 (C-3) nonprofit membership organization, we are able to continue this work through the generosity and commitment of our

many members, island visitors and other supporters. Please know that your support of our work is greatly appreciated!

Explore the natural wonder of Bald Head Island...

The Smith Island Complex is comprised of Middle, Bluff, and Bald Head Island. Spanning ten miles of beach and dunes, 10,000 acres of salt marsh, 4,000 acres of barrier island 'upland,' and 193 acres of Bald Head Woods maritime forest preserve, Bald Head Island is an exceptional location to conduct research and educational activities.

Hailed as one of the last remaining barrier islands in North Carolina where one can walk uninterrupted through salt marsh, maritime forest, dunes and beach habitats, Bald Head Island is *the* place for your next class or research trip. The Bald Head Island Conservancy is here to facilitate your discovery of Cape Fear.

Barrier Island Study Center – a LEED Gold Certified building that contains a wet laboratory, dry laboratory, multimedia theater, and research library. Environmentally friendly features include Cape Fear river wood, recycled floor tiles, skylights, recycled lint insulation, energy efficient lighting, zone specific HVAC system, SIPS walls, 7,000 gallon rainwater cistern, and recycled metal for support structures. The multimedia theater seats 40 and facilitates presentations, DVDs, and interactive meetings. The dry laboratory seats 10 and it outfitted with a complete glassware set, buret, basic measurement tools, and gas hookup. The wet laboratory seats 40 and contains microscopes, dissection scopes, autoclave, fume hood, touch tank exhibit with live invertebrates, and two walls of 10 gallon saltwater research aquaria. The research library contains 6 study carols.

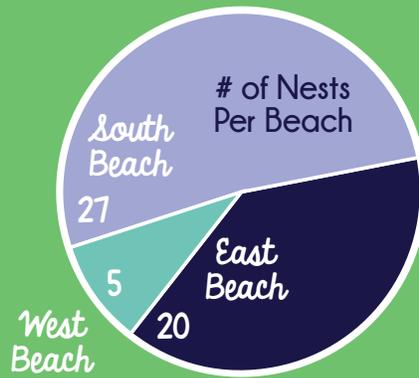
SEA TURTLES

Bald Head Island, North Carolina

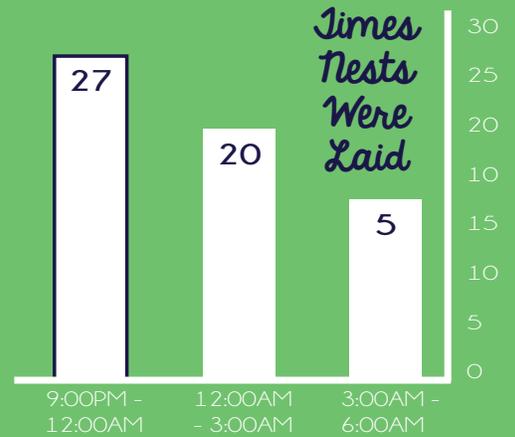
23 UNIQUE INDIVIDUAL MOMS

39% OF THOSE WERE NEW MOTHERS TO BHI

HIGHEST NESTERS ① **three moms** ② ③ ④ ⑤ **BILLIE CAROLINE UNNAMED**



76 FALSE CRAWLS
52 NESTS



BILLIE'S STATS

MOST EGGS IN ONE NEST 164

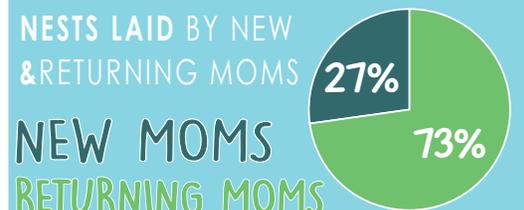
73% HATCHING SUCCESS RATE

BEST MOM 143 **MOST HATCHLINGS FROM ONE NEST (NEST 2)** 96% **AVERAGE HATCHING SUCCESS**

4,400 hatchlings
WENT TO SEA FROM BHI

14% OF NESTS WERE RELOCATED TOO CLOSE TO HIGH TIDE

Hurricane Florence IMPACT



BHIC.ORG

100%

OF NESTS WERE ADOPTED THROUGH ADOPT-A-PROGRAM

4

LEGACY SEA TURTLES NESTED
BILLIE LISA CAROLINE CARETTA

BHI Conservancy's Sea Turtle Protection Program

Efforts to protect the habitats and activities of sea turtles on Bald Head Island go back to 1980. Since its inception in 1983, the Bald Head Island Conservancy has coordinated and sponsored the Sea Turtle Protection Program, in cooperation with the North Carolina Wildlife Resources Commission and the National Marine Fisheries Service. As one of NMFS's "index beaches," Bald Head Island is nationally recognized for its sea turtle nesting activity, and for the Conservancy's efforts to protect this resource.

Each summer, the Conservancy funds and houses six interns to conduct field work for the Sea Turtle Protection Program, under the direction of our sea turtle biologist. The interns are typically undergraduates majoring in natural resource related fields. This internship opportunity is both unique and demanding. The interns not only conduct nightly patrols of the beach, but also experience the full range of job functions associated with running a small nonprofit organization.

The majority of an intern's summer is spent patrolling for nesting sea turtles from dusk until dawn on an all terrain vehicle. BHIC is the only NGO in North Carolina permitted to flipper tag nesting female sea turtles. Saturation tagging, tagging every possible female, provides a census of all nesting females. Very few other beaches conduct tagging studies as demanding. Data collected from nesting sea turtles includes GPS nest locations; flipper tag data; PIT tagging; straight and curved line carapace dimensions; and occasionally satellite tagging.

After the nesting female returns to the ocean, interns protect the nest from predation by a protective wire cage around the nest thus preventing raccoons, foxes, and dogs from disturbing the nest, while allowing the hatchlings to emerge unimpeded. Before the use of wire cages became standard practice on Bald Head, predation resulted in a nest mortality of approximately 50%. This has been greatly reduced in recent years.



Nests laid in a suboptimal location may be relocated to a safer location. Eggs may be in danger if they are laid below or close to the high tide line, in an area of high foot traffic, or of low sand quality. A nest can be relocated within the first six hours after it was laid, which is facilitated by our intensive beach patrolling.

As our interns return to school in mid-August, the sea turtle biologist assumes patrol duties to monitor nesting activity and emerging hatchlings. Since the incubation time for sea turtles in our locale is approximately sixty days, Bald Head hosts sea turtle hatching events from late July through mid-October.

After a nest has hatched, or if the nest is overdue, it will be excavated to determine nesting success. Success is determined by counting the number of eggs that successfully hatched vs. the total in the nest. This is evident by the number of empty eggs left in the nest along with the number of unhatched eggs. Frequently, viable hatchlings are rescued and released on the beach so they can make their way to the ocean.

Most of the sea turtles that visit our beaches are loggerheads (*Caretta caretta*), but we will occasionally see the Atlantic green sea turtle (*Chelonia mydas*).

Sea turtle nesting on Bald Head Island has experienced a general downward trend over the past 25 years but we are hopeful that through our protection efforts the number of nesting females will begin increasing in the years to come. Find out what you can do to help us continue this important research so that we ensure future generations will have the chance of witnessing these majestic, ancient creatures.



Bald Head Island Turtle Data

- Approximately 190,000 turtles have hatched on BHI beaches since 1980.
- 52 nests were laid on BHI and 4,400 hatchlings went to sea.
- BHI has the highest hatching success rate in the state of North Carolina, thanks to our sea turtle monitoring program.
- 2019 will be our 39th year of monitoring sea turtles on BHI.

Fort Fisher State Recreation Area, Kure Beach, NC



Reprinted from NCparks.gov

Prior to European settlement, the Cape Fear Native Americans, of the Siouan language group, lived in and around the lower Cape Fear peninsula; farming, fishing and hunting. Artifacts of the native culture, including pottery fragments, arrowheads and mounds of oyster shells, or midden piles, have been found in this area.

Early attempts at colonization in the area were unsuccessful, mainly due to conflicts with the Cape Fear Native Americans. Pirating, common in the area during colonial times, also contributed to the struggles of early settlers. About 1730, further upstream along the Cape Fear River from Fort Fisher, the port of Wilmington was settled. Wilmington became a bustling port, particularly important for its exports of naval stores - tar, pitch and turpentine products derived from the resin of the longleaf pine.

During the Civil War, Fort Fisher, built in 1861, served to protect the valuable port of Wilmington from Union forces. By late 1864, it was the last southern port open to trade. In this same year the first of two Union attacks on Fort Fisher took place. The fort held strong during the first battle and Union forces withdrew, but the Confederacy was not so lucky the second time.

In early 1865, a fleet of 56 ships bombarded the fort prior to a land assault by a force of more than 3,300 infantry. After a six-hour battle, Fort Fisher was captured and the Confederate supply line was broken. It was the largest land-sea battle fought in any war up to that time. The outcome contributed significantly to the outcome of the Civil War. Approximately three months after the fall of Fort Fisher, the Civil War came to an end.

In the late 19th century, a long rock jetty called “The Rocks” was built west of Fort Fisher to aid navigation by stopping shoaling in the Cape Fear River. Completed in 1881, The Rocks closed the former New Inlet, once used by Confederate blockade-runners to avoid the U.S. Navy, and created a lagoon, now called “The Basin”. Today, The Rocks and The Basin are part of the Zeke’s Island component of the North Carolina National Estuarine Research Reserve, and 1160-acre area of outstanding estuarine and ocean resources with extensive marshes and tidal flats.

The southern tip of New Hanover County became an island (now known as Pleasure Island) in 1929 when the U.S. Army Corps of Engineers dredged Snow’s Cut (named for Major William A. Snow, Chief Engineer for the Wilmington District). This cut is a canal that connects the Cape Fear River to Masonboro Sound and is now part of the Intracoastal Waterway.

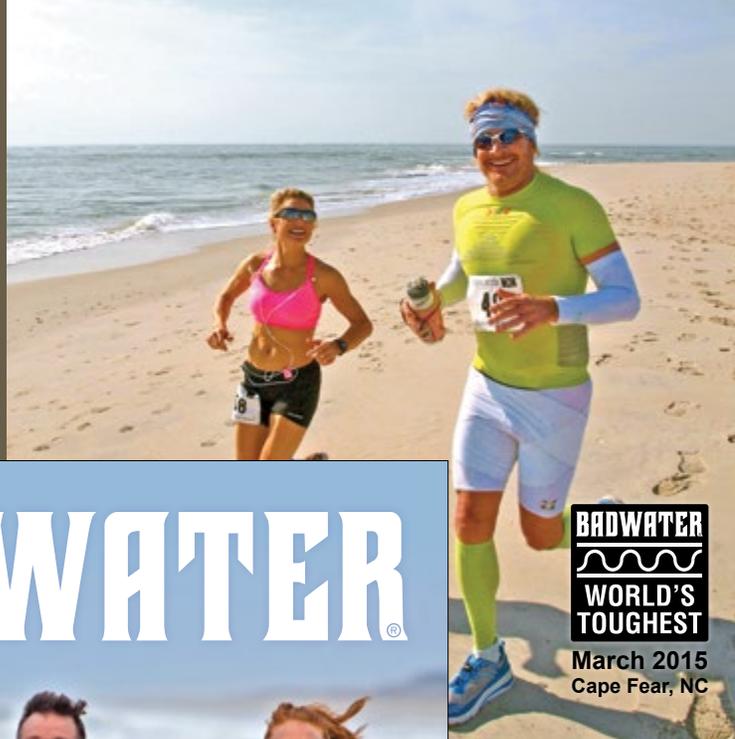
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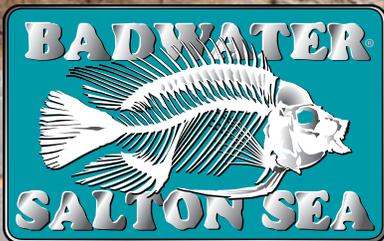
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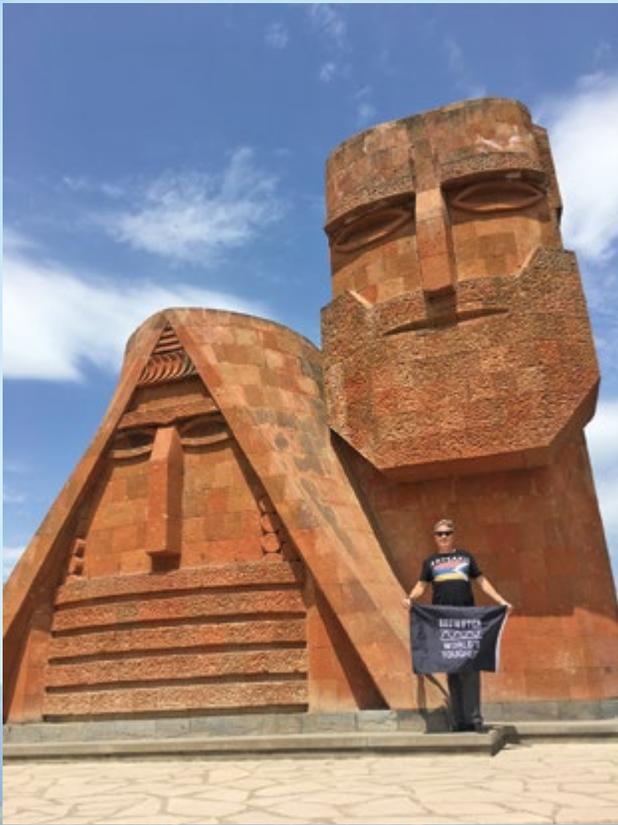
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May 2019

Explore Artsakh!

The Mountainous Republic of Artsakh is a democratic Christian Armenian nation located just east of Armenia itself. It's a gorgeous place with trails and pathways dating back literally thousands of years traversing pristine lands and passing through towns and villages, ancient sites, natural wonders, Christian churches dating as far back as the 4th Century AD, the historic city of Shushi, the gorgeous capital city of Stepanakert, and so much more. Artsakh is just a short flight from Europe and well worth the trip from all the corners of the globe!



For more info, visit www.artsakh.travel

And Badwater.AM

adventureCORPS®
"Out There Since 1984"
((☉•)→)



Chris with some of the 2018 finishers.

Founded in 1984 by yours truly, AdventureCORPS®, Inc. is an athlete-run firm producing the world's toughest races and promoting the world's toughest brand, BADWATER®. Our slogan is "We're Out There" and our prime directive is "To Seek and Share Adventure."

Welcome to the Spring 2019 edition of BADWATER Magazine, our semi-annual publication that celebrates the life "out there" with a particular emphasis on running long distances in exotic, challenging locations.

Adventure is our way of life, so we are extremely pleased to host the Seventh Badwater Salton Sea, the second leg of the Badwater Ultra Cup, on April 28-29, 2019. This three-event series kicked off on March 16 with Badwater Cape Fear (see the other half of this magazine) and concludes July 15-17 with the Badwater 135 Ultramarathon.

A truly epic event in an otherworldly location, Badwater Salton Sea pits up to 125 of the world's toughest athletes, competing together on teams of either two or three, against one another, the route, and the elements. With its epic route and a team ultra running format unique to this race, it is the one of the most demanding and extreme running races on the planet, one truly deserving of its "BADWATER" moniker.

The start line is the shoreline of the Salton Sea at Salton City, located at 234' (71m) below sea level in Imperial County. Runners traverse Anza-Borrego Desert State Park for the first 49 miles – including an 8-mile, 3500 foot single-track trail ascent - before stopping to pose with Rancheti, the Yeti of Ranchita, at mile 50. After another grueling ascent, the race finishes atop Palomar Mountain, San Diego County's almost tallest peak at 5500' (1676m) and the home of the world famous Palomar Observatory. The race course covers two major mountain ranges for a total of 9,000' (2743m) of cumulative vertical ascent over its 81-mile (131km) distance.

We thank and salute the County of Imperial, County of San Diego, California Department of Transportation, and Anza-Borrego Desert State Park, whose staff - and permits - oversee this event. We thank all the AdventureCORPS staff for their hard work in hosting a smooth and successful race. We thank everyone involved with the event for their sense of adventure and unassailable commitment to sportsmanship, fair play, and esprit de corps.

We wish everyone - racers, crews, staff, sponsors, media, and fans - a safe and successful race this year. May this truly be a life-changing experience for everyone. Welcome, or welcome back, to the Badwater Family!

Yours in sport,

Chris Kostman

Race Director and Chief Adventure Officer

AdventureCORPS, Inc.

638 Lindero Canyon Rd. #311 Oak Park, CA 91377 USA

www.adventurecorps.com / www.badwater.com

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Flip this magazine over for the March / Cape Fear edition of BADWATER Magazine!

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"Out There Since 1984"



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Front Cover: Traveling over from Japan, Badwater 135 legends Nobumi Iwamoto (L) and Hiroyuki Nishimura (center) ran with Nob's wife Rina Iwamoto (R) in 2018, finishing in 22:27. Photo by Marco Apostol. In 2018, ninety-two runners from eleven countries and twenty-one American states competed as 16 two-person teams and 20 three-person teams. Of the 36 teams entered, just 24 completed the race intact, with 61 of 92 runners finishing officially.

Photos courtesy Marco Apostol, Ian Parker, Chris Kostman, and others. Design and Layout by Kevin Fung, kevin@kfungdesign.com



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all night or take a week off
after working with us!



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SCHEDULE OF EVENTS

Friday, April 26, 2019

1900: Meet for dinner (no host) at the Borrego Springs Resort (across the driveway from the hotel lobby at The Arches.) The cool kids get to town on Friday in order to kick off things in style!

Saturday, April 27, 2019

0700-0830: Optional: Road and trail run around Borrego Springs past many of the incredible metal sculptures which dot the landscape and are known as Galleta Meadows. Depart on foot from hotel lobby at 700am. (Approximately six miles with several stops for photos.)

1015: Optional: Meet at Hotel Lobby to carpool to Salton City to visit the start line area and first 35 miles of the Badwater Salton Sea race route. (All are responsible for their own transportation. Please carpool.)

1500-1600: Runner Check-In and Photos

1600-1700: Pre-Race Meeting

Sunday, April 28, 2019

0500: Runners/Crews must depart Borrego Springs to the start line.

0533: Civil Twilight (first light in the sky)

0555/0559: Moonset/Sunrise

0600: Absolute deadline to arrive at the start line at: 905 Sea Port Ave, Salton City, CA 92274

0630: RACE START

1530: Time Cut-Off at Mile 35.23 (Borrego Springs) RUNNERS BEYOND THIS TIME CUT-OFF MUST WITHDRAW FROM THE RACE.

1530: All runners who begin the trail section of the race, which starts at mile 40.6, after 1530 (nine hours into the race) must carry a rain jacket, beanie, gloves, and a second set of new batteries for their light (or two separate lights / headlamps with new batteries), whistle, reflective gear and blinky lights, as well as cell phone, AMPLE hydration (1.5L or more), AMPLE nutrition, and other supplies. (ALL runners, regardless of time of day, are strongly encouraged to carry all these supplies! The conditions and weather can change very quickly on the trail!) NOTE: The fastest teams cover the trail section in about 2.5 hours, while the slowest teams have taken as much as SIX HOURS to complete the trail section.

1730: Time Cut-Off at Mile 40.6 (Lower Trailhead) RUNNERS BEYOND THIS TIME CUT-OFF MUST WITHDRAW FROM THE RACE.

1900: "Nighttime" as defined by us; follow nighttime protocols.

1906/1926: Moonrise/Sunset

1951: Civil Twilight (no light left in the sky)

Monday, April 29, 2019

0533: Civil Twilight (first light in the sky)

0558: Sunrise

0600: Post-Race Brunch is served - for ALL runners, crew, and volunteers - at the finish line, until 1100am.

1030: RACE COURSE CLOSSES (28 Hour Limit)

1100: Post-Race Brunch concludes at the finish line.

A creative design advertisement featuring a dark wood background. At the top, a white keyboard and mouse are visible. In the bottom left, there is a color palette and a pencil. In the bottom right, a blue business card for 'BADWATER' is shown. The central text reads 'Quality, Affordable CREATIVE DESIGN' in white, with 'CREATIVE DESIGN' in a larger font. Below this, it lists services: 'BRANDING DESIGN, LOGOS, BROCHURES, ADVERTISING, ANNUAL REPORTS, CATALOGUES, AND MORE...'. At the bottom, the contact information 'Contact: kevin@kfungdesign.com' is displayed.

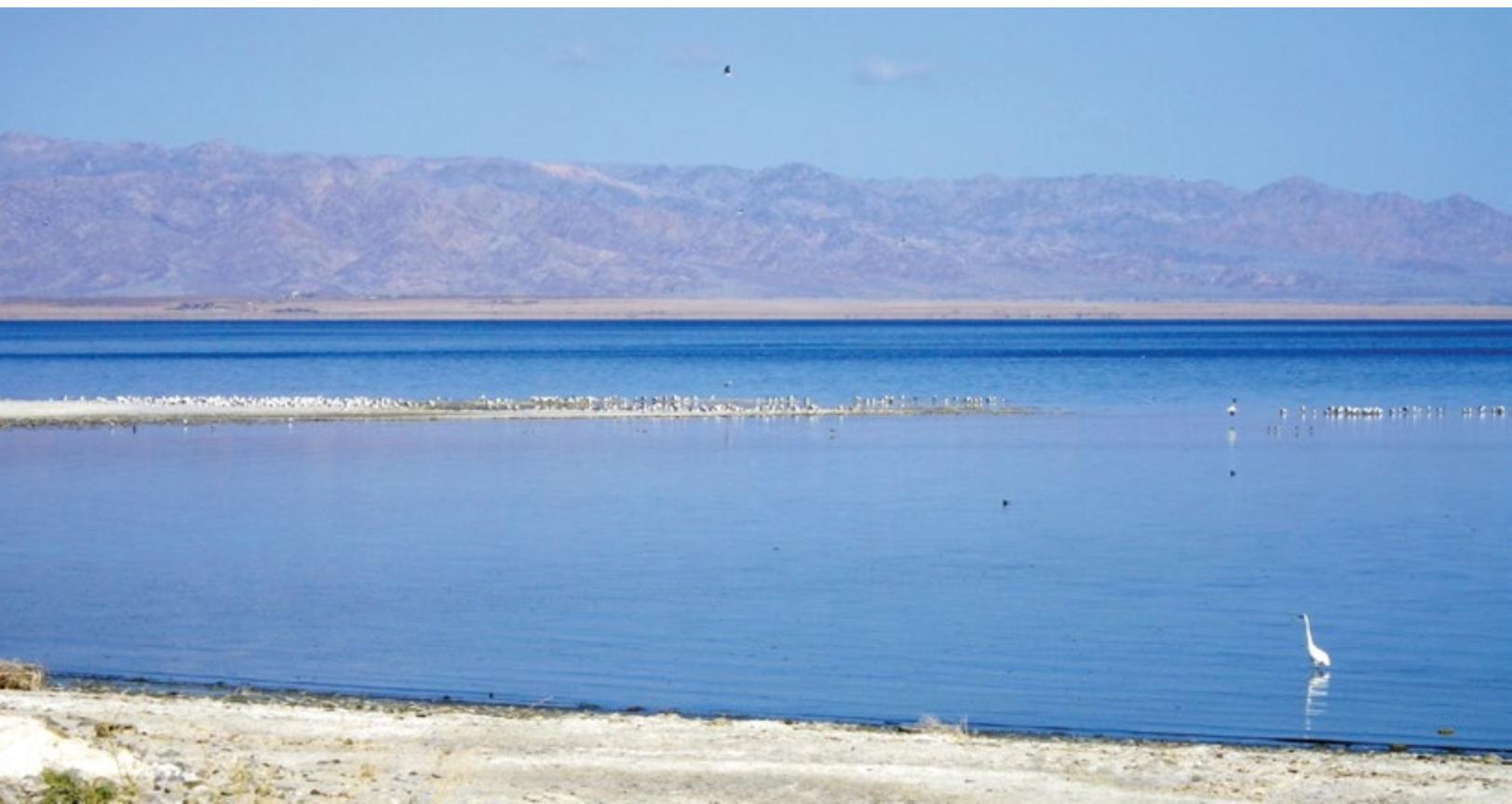
Quality, Affordable
CREATIVE DESIGN

BRANDING DESIGN, LOGOS, BROCHURES, ADVERTISING,
ANNUAL REPORTS, CATALOGUES, AND MORE...

Contact: kevin@kfungdesign.com

COURSE RECORDS

Team	Names	Category	Year	Grp	Elapsed
The Septemberists	Pete Kostelnick & Jon Juehler	2x Men	2017	20+	14:04:20
J-RAY	Jared Fetterolf & Ray Sanchez	2x Men	2016	30+	14:56:00
Too Legit To Quit	Walker Higgins & Dan McHugh	2x Men	2018	40+	15:36:00
Prickly Pair	Rober Buruss & Keith Straw	2x Men	2016	50+	23:58:00
Echo 37	Jane Cyphers & Will Gane	2x Mixed	2016	30+	21:18:00
Los Aventureros	Nelva Valladares & Mark Matyazic	2x Mixed	2016	40+	16:02:00
DingoBlonde	Amy Costa & Mark Matyazic	2x Mixed	2016	50+	17:33:00
Wingman Foundation	Monique Jacques & Brittany McCullough	2x Women	2016	30+	18:55:00
Sweat It Out	Molly Troy & Cheryl Tulkoff	2x Women	2016	40+	19:27:00
Beast Mode	Catra Corbett & Teresa Hillstrom	2x Women	2016	50+	22:36:00
Disney McFarland USA	Carlos Cabanillas, Diego Diaz, Oswaldo Velasquez	3x Men	2015	30+	15:09:42
Chasing Jared	Jared Fetterolf, Andrew Glaze, Ray Sanchez	3x Men	2018	40+	16:16:00
Yinzers	Keith Straw, Jeff Gleason, Bill Thompson	3x Men	2014	50+	19:39:00
Youth & Inexperience	Mike Arnsperger, Bob Becker, Keith Straw	3x Men	2015	60+	25:30:53
RVLVR	Ben Brown, Katya Meyers, and Mike Trevino	3x Mixed	2017	30+	19:38:14
Texas Relentless Roadrunners	Brian Hill, Alison Miller, and Brian Miller	3x Mixed	2017	40+	18:23:40
The Dharma Bums	Boni Collins, Jodi Samuels, Jodi Weiss	3x Women	2015	40+	22:37:40





BECOME A HERO OF SPORT

Heroes of sport believe we are more alike than we are different. We're all striving for the same things in sports: to practice, play, compete and celebrate. Yet, for individuals with physical challenges expensive adaptive equipment can be a barrier to participate.

For 25 years, the Challenged Athletes Foundation (CAF) has empowered thousands of individuals with physical challenges by providing access to sports.

By becoming a hero of sport, you'll help break that financial barrier and make sport possible. Together, let's provide more access to sports. [Donate online at donateCAF.com](https://donateCAF.com)







THE OFFICIAL CHARITIES

THE OFFICIAL CHARITIES OF ADVENTURECORPS ARE THE CHALLENGED ATHLETES FOUNDATION, MAJOR TAYLOR ASSOCIATION, CARING HOUSE PROJECT FOUNDATION, AND BALD HEAD ISLAND CONSERVANCY. THE GOAL AND PURPOSE OF OUR EVENTS IS TO RAISE FUNDS FOR, AND AWARENESS OF, THESE WONDERFUL AND IMPORTANT ORGANIZATIONS.



Since 2002, the original Official Charity of AdventureCORPS has been the **Challenged Athletes Foundation**. One of the goals of our events is to raise funds for, and awareness of, this wonderful organization.

The Challenged Athletes Foundation was created on the belief that people of all abilities should have the opportunity to pursue a life full of physical activity and of sports. Be they recreational or in pursuit of a gold medal at the Paralympic Games, people with a physical disability are limited only by their access to funding.

Since 1994, over \$100 million has been raised and more than 23,000 funding requests from challenged athletes in all 50 states and over 40 countries supporting 97 different sports have been satisfied. CAF's outreach efforts reach another 200,000 individuals each year. Whether it's a \$2,500 grant for a handcycle, helping underwrite a carbon fiber running prosthetic foot not covered by insurance, or making the introduction to a mentor who has triumphed over a similar challenge, CAF provides those with the desire to live active, athletic lifestyles every opportunity to compete in sports and physical activities.

Eighty cents of every dollar raised by CAF provides funding and programs that get challenged athletes into the game. (CAF has a Four-Star rating by Charity Navigator.)

Since 2002, AdventureCORPS has raised over \$350,000 for CAF, and AdventureCORPS athletes have raised equally impressive sums!

Website: www.challengedathletes.org



The Bald Head Island Conservancy was founded on Bald Head Island, NC in 1983 with a focus on barrier island conservation, preservation, and education. The Conservancy sponsors and facilitates scientific research that benefits coastal communities and provides numerous recreational and educational activities to the public. In coordination with various organizations, partnerships, and collaborations, the Conservancy has led the nation in conservation and research efforts and is uniquely poised to become a leader in Barrier Island Conservation world-wide.

Badwater fans and race participants will appreciate that BHIC cares for the pristine setting for the Badwater Cape Fear race route and its role as a sea turtle nesting site and sanctuary. The Conservancy also serves as the host and finish line for our event. As such, our goal is to raise \$10,000 to purchase one of the special UTV vehicles which BHIC uses to patrol the beach and care for sea turtle nesting sites.

Website: www.bhic.org



Since 2014, AdventureCORPS is proud to recognize **Caring House Project Foundation** as an Official Charity and support their efforts. Founded by ten-time Badwater 135 veteran Frank McKinney, and based on the principal that "stability begins at home," CHPF provides shelter to the world's most desperately poor and homeless by building entirely self-sufficient villages in the poorest county in the Western Hemisphere, Haiti.

As of today 10,616 children and their families have been provided with a new concrete home, and countless more are alive because of CHPF's efforts. In 2017 CHPF completed its 24th self-sufficient village in Guimbi, Haiti. That's right, 24th self-sufficient village in 21 Haitian cities in last 14 years! Visit www.chpf.org to support Frank's efforts. Thank you for all you do, Frank and Nilsa!

Website: www.chpf.org

ENVIRONMENT

AdventureCORPS events happen not in a man-made stadium, but in the real world “out there.” We care deeply about the natural world for we are intrinsically linked with it and because we want to enjoy these events in their awesome natural settings for a long, long time.

As such, we joined **One Percent For The Planet** on July 1, 2008, a growing global movement of more than 1200 companies that donate at least 1% of their sales to a network of more than 3600 approved environmental organizations worldwide. Therefore we donate at least 1% of total revenues (in other words, “off the top,” not just 1% of profit) to environmental causes. This is in addition to all the work we do on behalf of, and donations we make to, Challenged Athletes Foundation, Major Taylor Association, and Caring House Project Foundation, which are wonderful causes but not environmental in their focus. In the past ten years, we and our fellow One Percent For The Planet members have invested over \$100 million in positive environmental change.



In association with our membership in One Percent for the Planet, we have supported **The Conservation Alliance** since September, 2008. The Conservation Alliance is an organization of outdoor businesses whose collective contributions support grassroots environmental organizations and their efforts to protect wild places where outdoor enthusiasts recreate. Alliance funds have played a key role in protecting rivers, trails, wildlands and climbing areas throughout North America.



Membership in the Alliance is open to companies representing all aspects of the outdoor industry, including manufacturers, retailers, publishers, mills and sales representatives. The result is a diverse group of businesses whose livelihood depends on protecting our natural environment. Since its inception in 1989, the Alliance has contributed close to \$13 million to grassroots conservation groups throughout North America. The results of our funding have been remarkable. Alliance funding has helped to save more than 44 million acres, protect 2,945 miles of rivers, stop or remove 26 dams, and purchase 10 climbing areas. There are now more than 190 member companies, and plans to disburse \$1.65 million in 2015.

In 2014, we began supporting the **Bald Head Island Conservancy** with the inaugural BADWATER Cape Fear race by focusing attention on the race route’s pristine setting as a sea turtle nesting area and BHIC’s role as a leader in barrier island conservation, preservation and education.



Additionally, we have championed other environmental causes including the **Los Angeles County Bicycle Coalition**, a nonprofit organization with over 1,000 members that engages cyclists through advocacy, education and outreach across the county. Founded in 1998, LACBC brings together the diverse bicycling community in a united mission to improve the bicycling environment and quality of life for the entire region. In 2011, we donated \$10,000 to LACBC to initiate and sponsor the Jim Swarzman Memorial Membership Drive, an effort that brought \$23,000 into LACBC.

AdventureCORPS joined the **Death Valley Natural History Association** as Life Members and recognized DVNHA as an Official Charity of AdventureCORPS from 2009 through 2013. DVNHA is a non-profit organization supporting education, research, and preservation in Death Valley National Park and Ash Meadows National Wildlife Refuge. Some of their efforts include DeathValley R.O.C.K.S. (bringing inner city kids to experience one of the largest outdoor classrooms in the world), Devil’s Hole Pupfish Recovery, Death Valley All Taxa Biological Inventory, plus they run the wonderful gift shops in the Park.



According to DVNHA, AdventureCORPS has paid for, at the minimum, “every need (sleeping bags, cooking fuel, transportation) for one Death Valley ROCKS school group (50-60 students, chaperones, and teachers) every year since 2009.” AdventureCORPS athletes have also supported this and other DVNHA causes! Additionally, through DVNHA, AdventureCORPS and our athletes have donated \$5000 to support the recently renovated Death Valley National Park Visitors Center, as evidenced by five “donor tiles” are in the Visitors Center (one per \$1000 donation.)

Borrego Springs Resort



The host hotel of BADWATER Salton Sea is the Borrego Springs Resort, located at 1112 Tilting T Drive, Borrego Springs, CA 92004. This is also the location for Racer Check-In and the Pre-Race Meeting on the day prior to the race, as well as for Time Station #2 located at Mile 35 during the race.

Borrego Springs Resort is an oasis of luxury nestled between the Anza-Borrego Desert and the foothills of the Santa Rosa Mountains. The Resort boasts a variety of recreational amenities, fine dining and comfortable accommodations all within ninety minutes of Palm Springs and San Diego.

In addition to golf, Borrego Springs Resort offers its guests a variety of recreational amenities to choose from including a full-service Spa Serenity with a privatized pool, a heated swimming pool, whirlpool spa, six lighted tennis courts and fitness center. More info at BorregoSpringsResort.com

Borrego Springs is also home to Galleta Meadows, featuring 130 full-size metal sculptures of prehistoric mammals, dinosaurs, wild horses, sabertooth tigers, and even a 350-foot long serpent, all designed by artist Ricardo Breceda and located on land provided by the late Dennis Avery. Providing an awesome setting in which to run and explore, it is open to the public 24/7 and free of charge. More info at GalletaMeadows.com



Salton Sea



In 1901, the California Development Company, seeking to realize the Imperial Valley's potential for unlimited agricultural productivity, dug irrigation canals from the Colorado River. Heavy silt loads, however, inhibited the flow and new residents of the valley became worried. This prompted the engineers to create a cut in the western bank of the Colorado to allow more water to reach the valley. Unfortunately, heavy flood waters broke through the engineered canal and nearly all the river's flow rushed into the valley. By the time the breach was closed, the present-day Salton Sea was formed.

One of the attractions of the Sea is the abundance of life, manifested in the hundreds of species of birds that reside in, or visit, this important wetland habitat, and the fish that inhabit the waters. That is why some scientists have called the Salton Sea "California's crown jewel of avian biodiversity" and perhaps was the most productive fishery in the world.

This abundance of wildlife is particularly critical given the decline of wetlands. Over 90 percent of the wetlands of California have been lost. As California's wetlands decline, the importance of the Sea as a habitat for inland wetland species increases. The Sea's habitats support up to 40 percent of the entire US population of the threatened Yuma clapper rail, 80 to 90 percent of the American white pelican, and 90 percent of the eared grebe.

Besides the opportunity for bird watching and for fishing, the Salton Sea and its immediate vicinity offer recreational opportunities including boating, camping, off-roading, hiking, hunting, use of personal watercraft and photography. One of the attractions, the Salton Sea State Recreation Area, has 1,400 campsites in five campgrounds, hundreds of picnic sites, trails, playgrounds, boat ramps and a visitors' center.

Salton Sea Statistics

The Salton Sea, located in the southeastern corner of California, is actually a lake which occupies a desert basin known as the Salton Sink. This body of water covers a surface area of 376 square miles, making it larger than Lake Tahoe and Mono Lake. In fact, the Salton Sea is the largest lake in California. The Sea's current elevation is about 227 feet below mean sea level, its maximum depth reaches 51 feet and its total volume is about 7.5 million acre-feet.

Excerpted from <http://saltonsea.ca.gov>: The Salton Sea Authority.

Photo by Chris Kostman near the race start line.



Anza-Borrego Desert State Park



Anza-Borrego Desert State Park is the largest state park in California, featuring 500 miles of dirt roads, 12 wilderness areas, and many miles of hiking trails provide visitors with an unparalleled opportunity to experience the wonders of the California Desert. The park is named for Spanish explorer Juan Bautista de Anza and the Spanish word borrego, or bighorn sheep. The park features washes, wildflowers, palm groves, cacti and sweeping vistas. Visitors may also have the chance to see roadrunners, golden eagles, kit foxes, mule deer and bighorn sheep as well as iguanas, chuckwallas and the red diamond rattlesnake.

The Park is located on the eastern side of San Diego County, with portions extending east into Imperial County and north into Riverside County. It is about a two-hour drive from San Diego, Riverside, and Palm Springs.

Most visitors approach from the east via Highways S22, S2, or 78. Visitors from San Diego via Highways 79 and 78 have the added pleasure of driving through the mountainous Cuyamaca Rancho State Park--quite a different experience from Anza-Borrego. The highways from the east climb to 2,400 feet or so and then descend about 2,000 feet to the valley. Where the highway breaks out of the high-country vegetation, it reveals the great bowl of the Anza-Borrego desert. The valley spreads below, and there are mountains all around. The highest are to the north--the Santa Rosa Mountains. The mountains are a wilderness, with no paved roads in or out or through. They have the only all-year-flowing watercourse in the park. They are the home of the peninsular bighorn sheep, often called desert bighorn.

There are more wonders in this desert than anyone could see in a lifetime, including wildflowers, which usually start blooming in force in late February or early March. Varieties of cactus bloom at all elevations but at different times, and for wildflower buffs they are the real prize. They tend to be "specimen" blossoms in colors ranging from red to yellow, and green. Other plants, such as the red chuparosa and the yellow brittlebush, show themselves as a mass of tiny flowers covering the surface of a shrub, or even a field of shrubs, or, in a good year, a broad expanse of pink sand verbena.

Excerpted from www.parks.ca.gov/?page_id=638

Photo by Ian Parker.

Palomar Mountain



Palomar Mountain is a mountain in the Peninsular Ranges in northern San Diego County. It is famous as the location of the Palomar Observatory and Hale Telescope, and known for the Palomar Mountain State Park.

The Luiseno Indian name for Palomar Mountain was “Paauw” and High Point was called “Wikyo.”

The Spanish name “Palomar,” in English meaning “pigeon roost,” comes from the Spanish colonial era in Alta California when Palomar Mountain was known as the home of Band-tailed Pigeons.

During the 1890s, the human population was sufficient to support three public schools, and it was a popular summer resort for Southern California, with three hotels in operation part of the time, and a tent city in Doane Valley each summer.

Palomar Mountain is most famous as being home since 1936 to the Palomar Observatory, and the giant Hale Telescope. The 200-inch telescope was the world’s largest and most important telescope from 1949 until 1992. The observatory currently consists of three large telescopes.

Palomar Mountain is the location of Palomar Mountain State Park, a California State Park. There are campgrounds for vacationers, and there was a campground for local school children until the San Diego Unified School District was forced to close it due to state budget cuts. The park averages 70,000 visitors annually. The campgrounds in the park were temporarily closed on October 2, 2011, due to state budget cuts, and the park was among 70 California State Parks threatened by budget cuts in fiscal years 2011-2012 and 2012-2013, but the park and the campgrounds remain open.

Palomar Mountain, especially in the state park area, is densely wooded with abundant oak and conifer tree species (pine, cedar, fir). Ferns are abundant everywhere in the shady forest. The forest is supported by annual precipitation totals in excess of 30 inches.

High Point in the Palomar Mountain range is one of the highest peaks in San Diego County, at 6,140 feet (1,871 m), surpassed by Cuyamaca Peak (at 6,512 feet (1,985 m)) and Hot Springs Mountain (the county’s highest point, at 6,533 feet (1,991 m)).

Excerpted from http://en.wikipedia.org/wiki/Palomar_Mountain

Photo by Chris Kostman. That white dot on the ridge line, a bit left of center, is the Observatory.

RACE RULES

GENERAL RACE RULES

1. All runners must check in at the start line, ready to race, at 0545 and the race will begin at 0630 on race day. (This requires departing Borrego Springs no later than 500am.)
2. There are only two divisions: Duo or Trio, which are then sub-divided into men's team, women's team, and mixed team sub-categories.
3. The race bib must be worn and visible at all times during the race. It can be placed anywhere obvious: hat, hydration pack, number belt, chest or back of shirt, etc.
4. There are mandatory intermediate cut-offs along the route. Specifically, all teams must have continued beyond the Borrego Springs Resort at mile 35.23 within nine hours of starting the race, while all teams must have continued onto the trail section which begins at mile 40.6 within eleven hours of starting the race. Teams / runners which exceed these deadlines will be declared DNF and MUST discontinue running and participation in the race.
5. All runners which begin the trail section of the race, which starts at mile 40.6, after 330pm (nine hours into the race) must carry a rain jacket, beanie, gloves, and a second set of new batteries for their light (or two separate lights / headlamps with new batteries), whistle, reflective gear and blinky lights, as well as cell phone, AMPLE hydration (1.5L or more), AMPLE nutrition, and other supplies. (Runners ahead of this schedule are also strongly encouraged to carry all these items!) NOTE: The fastest teams cover the trail section in about 2.5 hours, while the slowest teams have taken as much as SIX HOURS to complete the trail section.
6. The clock does not stop for any reason until the race course officially closes after 28 hours. All racers must leave the course by the 28th hour (or sooner, if cut-offs are missed, as outlined above).
7. Running must always be single file and outside the white "fog line" on the edge of the roadway. Running should be off the left side of the road, facing traffic. Running well away from the pavement may be done on either side of the road, depending on which side is safest and has the best line of sight. The intent of the rules and the event's concept is that all running is done outside the white "fog line" and therefore never in any traffic lane (except during the first 6.9 miles through Salton City, where all running is along local roads.)
8. There is no "I" in "TEAM": All members of each team must remain together while running (within 25 meters) at all times. If members of a team become more than 25 meters apart, the lead runner, or runners, who allowed the gap to grow to more than 25 meters will be disqualified immediately. This applies for the entire 81 miles of the race course, especially on the trail section where teams should make an even bigger effort to stay well within the 25 meter limit. (Teams are expected to run together, single-

file, essentially at all times. The 25 meter limit is only intended to allow privacy during nature calls, not to allow the runners on a team to spread out.)

9. Teams must make their presence known at all Time Stations located along the route; they must arrive at all Time Stations together and may only depart each Time Station together, unless one runner is dropping out of the race at that location. Team arrival times at Time Stations will be recorded and made public.

10. All members of each team must run the entire distance and cross the finish line together to be considered Official Finishers and be ranked in the results. Teams which do not complete the course intact (i.e. one or two team members drops out along the way) will not be ranked, but the remaining team members are encouraged to complete the race under all applicable race rules and will be listed as Official Finishers (but not ranked). Finisher buckles will be awarded only to runners who complete the full 81-mile route within the guidelines of the race, but only intact teams will be ranked as Official Finishers.

11. Teams may not change division (for example, from Trio to Duo) any later than the day prior to the race. If a Trio has one runner drop out during the race, that team will NOT be re-categorized as a Duo.

12. Racers, crew, and staff must not litter, mar, or pollute the landscape or environment.

13. All racers, crew and staff must display courtesy, good taste, decorum, and sportsmanship at all times. Nudity is specifically not allowed.

Legal and Bureaucratic Issues

1. Badwater® is a federally registered trademark and may not be used in any commercial or promotional manner except under license from AdventureCORPS, Inc. In particular, t-shirts (such as for crew members) may not state "Badwater" nor feature any version of the race logo. (Remember, all runners receive a free Badwater Salton Sea t-shirt, as do two crew members per team.)

2. All racers must follow and complete the entire application and entry process, filling out all forms and paying all necessary fees.

3. All racers and all crew members must sign and fully complete the Accident Waiver and Release of Liability / Release of Name and Likeness. All racers must sign and fully complete the San Diego County Waiver and Release of Liability. Each team must also bring the properly completed Check-In Form to Runner Check-In.

4. All race vehicles must meet the minimum requirements of property damage and personal injury liability automobile insurance for the State of California. All vehicle drivers must be fully licensed.

5. All racers and all support team members must attend Racer Check-In and the Pre-Race Meeting.

6. All entrants must bring one U.S. dollar (or more) in a sealed envelope to Racer Check-In. Please write the runner name and team name on the envelope. This envelope will not be returned and the money will be donated to charity.

7. During Racer Check-In, all entrants must display ONE satisfactory reflective vest and TWO blinking red lights PER RUNNER and PER CREW MEMBER. These must be worn and utilized by the runners and crew at all times while outside of vehicles during nighttime periods of the race. Runners without satisfactory quality, or quantity, nighttime safety equipment will not be allowed to compete. (Hi-visibility clothing is highly recommended for both runners and crew members at all times, including during the day.)

8. All applicants must be a minimum of 18 years in age when submitting an application to race.

9. All racers must be willing to submit to a drug urine test before (at any point prior to the race, after being officially confirmed for entry), during (at any time), or after the race (up to 90 days after the conclusion of the race). If any WADA banned substances are detected, the racer - AND THEREFORE HIS OR HER TEAM - will be disqualified from competition, listed as DISQUALIFIED FOR DOPING in the final standings of the race, and banned for life from any AdventureCORPS event. Refusal to submit a urine specimen upon demand will also result in the racer being disqualified from competition, being listed as DISQUALIFIED FOR DOPING in the final standings of the race, and being banned for life from any AdventureCORPS event. Additionally, any BADWATER Salton Sea finisher who fails a drug test within 36 months after competing in any edition of BADWATER Salton Sea will be retroactively disqualified from any and all previous BADWATER Salton Sea races, removed from all BADWATER Salton Sea race results, as well as banned for life from any AdventureCORPS events.

10. No commercial photographer / videographer may accompany or cover any racer or the race itself without the specific written permission of AdventureCORPS, Inc. Additionally, multiple government agencies may also require payment of a filming fee and signature of a filming agreement.

Support Crew and Assistance

1. Each team must be accompanied by a support crew comprised of no more than one four-wheeled motor vehicle and a minimum of two crew members - both of whom are legally licensed to drive and at least one of whom can speak English - at all times. Each team must have its own dedicated personal support crew and vehicle; crew and support vehicles may not be shared, except informally in the spirit of the event, i.e., support crews may lend assistance to other teams, racers, or crews. "Unofficial crews or crew vehicles" and "family cheering squads" are not allowed at the race.

2. Runners must progress under their own power without drafting, helping, pushing, supporting, or any other type of physical assistance, EXCEPT from their teammates. (Teammates may help one another in any reasonable manner, including pushing, pulling, towing, and the like.)

3. So-called "cooling vests" or other types of artificial / technological cooling systems may not be worn or utilized by race entrants while making forward progress on the race course.

4. Runners may not be accompanied by a crew member at any time while making forward progress on the race course, EXCEPT during brief moments when supplies are being handed off. Crew members that are handing off supplies, or otherwise providing aid to the runners, must be off the roadway at all times (i.e. outside the white line on the shoulder). Crew members may not run in front of race entrants at any time. Crew members may not accompany runners during the trail section of the race (mile 40.6 to mile 48.5.)

5. After mile 6.9 (leaving Salton City), runners must NEVER run abreast with other runners: All running must be single-file.

6. Crew members may not use illegal drugs, stimulants, or dope, as well as alcohol of any kind, during the race or at any official race events or activities.

7. Wheeled conveyances (other than a motorized support vehicle), including in-line skates, strollers, and bicycles, are prohibited on the course at all times. Likewise for hovercrafts and helicopters. Runners accompanied by any such conveyance will be disqualified.

Support Vehicles

1. The California Motor Vehicle Code, and all local, county, and/or State Park laws, rules, and regulations, must be respected at all times. In particular, support vehicle drivers and crews are reminded that phones must only be operated by the driver with a hands-free device; seat belts must be worn by all vehicle occupants at all times while moving, and it is illegal to drive on a highway while displaying emergency flashers. For further information, consult the DMV Code.

2. Support vehicles may not be wider than 78" in width (not counting mirrors, fenders, or bumper which extend beyond the widest part of the actual vehicle body; manufacturers specifications include those features.) Small Cars, Minivans, and SUVs are recommended. Oversize SUVs, vans, and trucks, or other types of oversize vehicles are strongly discouraged. Motorhomes, RVs, "SportsMobiles," Sprinter Vans, and all types of Hummers are specifically not allowed.

3. All race vehicles must have highly visible signage on the back of the vehicle stating "CAUTION RUNNERS ON ROAD," as provided by the race organizers at Runner Check-In. (Teams may provide their own signage for this purpose, but its suitability will be inspected.)

RACE RULES

4. All support vehicles must have their Team Name easily and clearly visible on all four sides. The lettering must be at least 10" (26cm) tall. A high-visibility "paint pen" may be used to mark the team name in the lower section of the windows on all four sides of the vehicle, so long as it does not obstruct the view through any of the windows. (The race organizers will have several paint pens available for this purpose.) Alternatively, or additionally, teams may choose to have custom signage made to identify their vehicle.

5. Except as noted above, the view through vehicle windows may not be blocked or obstructed with any signage, paint, or the like. If a team's support vehicle is found with blocked windows during the race, that team will be forced to stop and wait while the vehicle's windows are unblocked and signage properly mounted.

6. Vehicles must "leapfrog" the runner at all times. Generally speaking, each "leapfrog" should be approximately THREE MILES in length during daylight, and ONE MILE or more in length during nighttime. Racers may never be "shadowed" (driving a vehicle at the runner's speed) and vehicles must not "caravan" (drive together, like a train, at any speed). Driving may never be at the speed of any racer. Driving must be done at the speed of traffic, never slowing down to encourage, talk to, or lend assistance to any racer while moving. All assistance must be provided by pedestrian crew members; handing off of supplies from the vehicle is never allowed while the vehicle is in motion.

7. All support vehicles must have their headlights on while driving, 24 hours a day. From 700pm to 700am (our definition of nighttime), at all times while stopped or parked off the road, support vehicles must have their headlights turned off and emergency flashers turned on.

8. Vehicles must be parked completely off the road surface whenever they are stopped - with all four tires right of the white line, preferably at least 8 feet beyond the white line. Many areas of the route have very little shoulder for parking, so care must be taken in choosing stopping places. When stopping/parking, vehicles may not stop on the left side of the road, except in VERY LARGE pullouts at which the vehicle will be at least 15 feet from the edge of the roadway.

Safety and Medical Issues

1. Remember, at all times and in all situations, safety is the most important issue. This means safety for racers, crew, staff, and the general public must always be respected. The roads are not closed for this event and may be, in fact, quite busy with tourist and local traffic.

2. I.V.s (intravenous fluids) are not permitted during the race. If a racer receives an I.V. during the race, for any reason, then that racer is disqualified and must withdraw from the race and the race course. His or her teammates may continue as an unranked team.

3. From 700pm to 700am (our definition of nighttime), while out of doors on the race course, all racers and all crewmembers must

wear reflective material facing in all four directions, as well as blinking red lights facing front and rear. Racers and crewmembers are encouraged to wear high-visibility clothing during the day as well. We highly recommend the products from NathanSports.com and XXYZZX.com.

4. Racers are responsible for their own actions, their teammates' actions, and their crew's actions; crews are responsible for both their own actions and their racers' actions.

5. Always look and listen both ways before crossing the highways. Remember that drivers will not expect to encounter a racer or parked vehicle out on the course. Remember we are on public roads with no road closures or traffic monitoring. Racers should not cross over the highway more than necessary; crew should cross the highway carefully to bring assistance to their racer.

6. All entrants and crew must study "Medical Risks in Badwater Salton," "Dangers of Running in the Heat," and "The Dangers of Hot Weather Running" as published at www.badwater.com

Leaving the Course or Withdrawing

1. Every inch of the course must be traveled by each racer. In the event of a routing error, e.g., wrong turn, the racer may be driven back to the exact original spot where he/she left the course and continue running from that location. There will be no allowance made for lost time or miles run in the wrong direction.

2. If a racer or team needs to leave the course, his/her crew must note the exact location with some sort of marker left on the ground, as well as resetting their odometer to mark the distance to the location. The racer and his or her team must then resume the race from the same place that he/she left it. Racers may only leave the course for appropriate reasons such as rest or medical attention. Focus must be kept on the speedy completion of the course.

3. If a racer or team withdraws, he/she or his/her crew must contact Race Headquarters or a Time Station immediately. Team Name, reason for withdrawal, time of withdrawal, and miles completed must be stated. All racers and crew who drop are encouraged - and expected - to come to the finish line and the post-race brunch to greet and celebrate with their fellow racers and crews.

4. All Emergency Evacuation costs for participants or crews will be borne by that person or their heirs. The race organizers are in no way liable or responsible for emergency evacuation.

Awards

1. All racers who begin the event will receive a BADWATER Salton Sea race t-shirt and hat, BADWATER Magazine, as well as entry into the post-race brunch (for all racers and crew members).

2. All runners who complete the full 81-mile route within the guidelines of the race will receive the finisher's buckle and be recognized as Official Finishers, but only intact teams will be ranked.

Rule Enforcement and Penalties

1. Race rules are designed to provide a safe and fair experience for everyone involved and to help ensure our ability to produce the race again next year.
2. Major rule infractions by racers or their crew, especially those regarding “cheating,” safety, and poor sportsmanship will result in immediate disqualification of the racer, or racers.
3. Other, lesser offenses will result in the following cumulative time penalties:
 - First Penalty: One Hour
 - Second Penalty: Disqualification
4. Time penalties are imposed at the finish line by adjusting finishing times.
5. The Race Director has the authority, at any time, to overrule any rule or invent a new rule based on extenuating, unforeseen, and/or unusual circumstances and/or to maintain the integrity and fair play necessary for the successful completion, and continuation, of the race. The Race Director has ultimate authority in regards to all rules, their interpretation, and their enforcement. There is no “appeals committee” nor an “appeals process.” All entrants in the race, and their support crews, willingly acknowledge this fact, as well as all other race rules, by attending the race in any capacity.
6. In all cases and circumstances, it is the intent, and spirit, of the rules which will govern their implementation and enforcement.

Finally

1. Have fun and keep smiling!

MEDICAL RISKS IN BADWATER SALTON SEA

This 81-mile race is one of the most physically taxing competitive events in the world. It also has considerable medical risks. All runners and crews must appreciate these two facts both before and during the race.

Heat illness and heat stroke are serious risks. These can cause death, renal shutdown, and brain damage. It is important that runners and crews be aware of the symptoms of impending heat illness. These include: nausea, vomiting, headache, dizziness, faintness, irritability, lassitude, weakness, and rapid heart rate. Impending heat stroke may be signaled by a decrease in sweating and goose bumps, especially over the chest. Heat stroke may progress from minimal symptoms to complete collapse in a very short period of time. Deaths and renal shutdown (kidney failure) have been reported in other ultra-marathons. Adequate conditioning is mandatory.

Adequate fluid and electrolyte intake is the most important preventative for heat illness. Runners may well require dozens of gallons of fluid during this race. Proper pace is crucial.

High altitude plus exertion can also produce various degrees of altitude sickness. This can lead to severe lung and brain swelling, and even death. The main treatment is rest, and especially to get to a lower altitude.

Blisters are also a problem on this course, with pavement temperatures perhaps reaching 150-200 degrees. Proper foot care and preparation are essential for having a successful race.

Remember, you are responsible for your well-being while participating in this race. There are no aid stations. Know where your limits are and know your body. Your acceptance of invitation to this race declares that you are aware of the risks and potential health problems.

12th Annual Ultramarathon

MAY 18, 2019

"THE ORIGINAL" KEYS 100

100 Mile, 50 Mile & 50K Individual Races

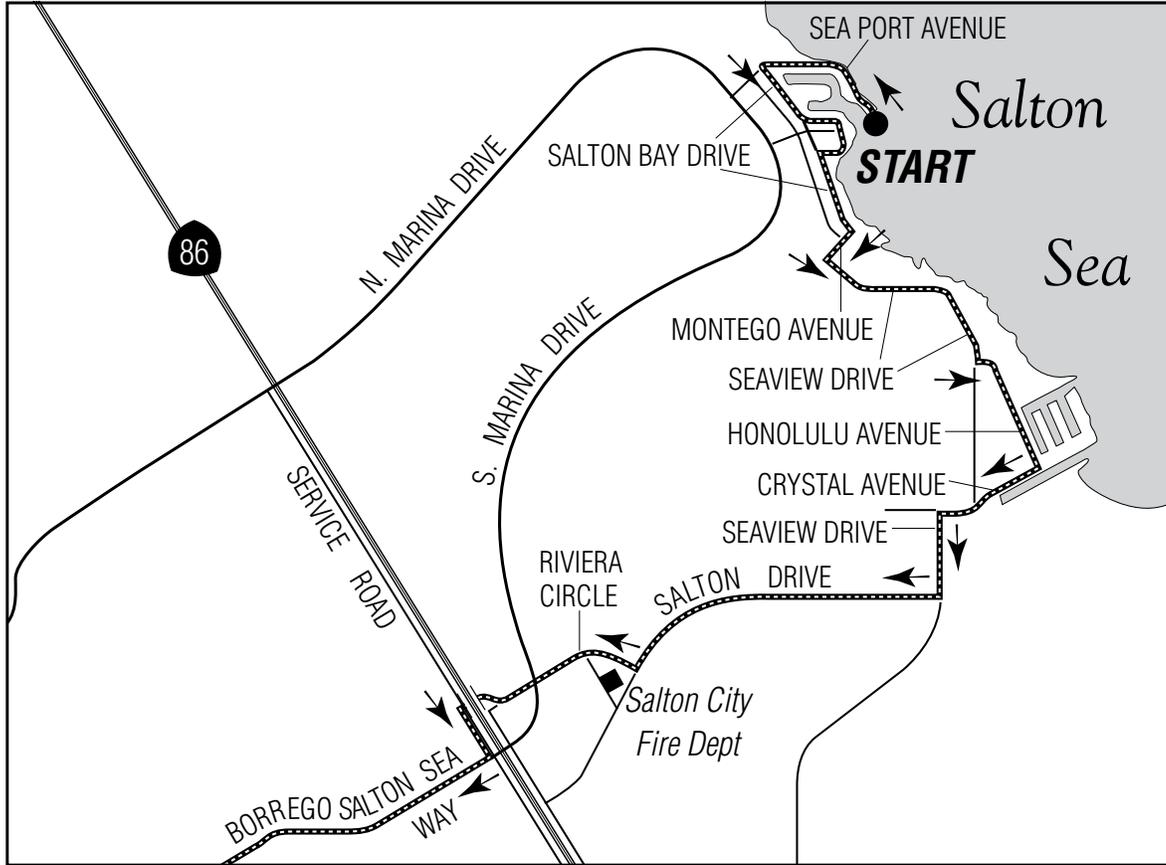
See the website for details
www.keys100.com

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UltraSports

Run the islands of the Florida Keys!

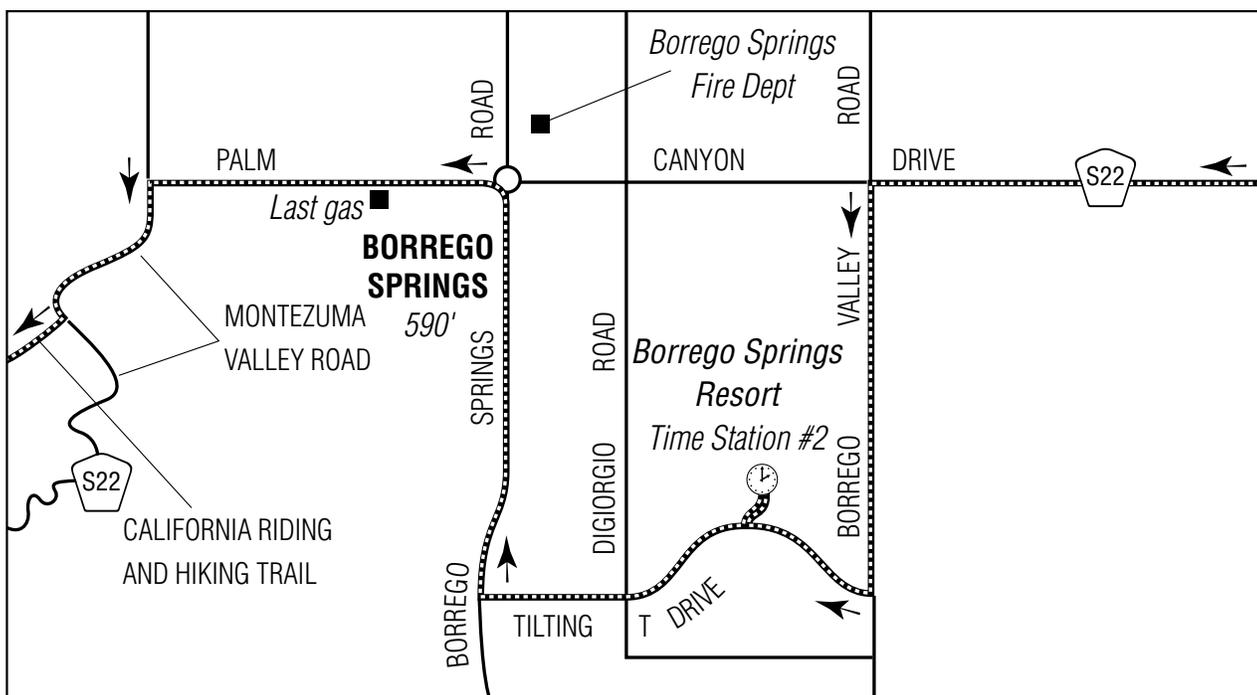
Keys 100 race director Bob Becker is a multiple veteran of all three Badwater races!

OFFICIAL RACE ROUTE



<i>Distance (ml.)</i>	<i>Landmarks</i>	<i>Time</i>
0	Salton Sea Start Line at end of Port Avenue	0630
0.65	Left Salton Bay Dr. Support Crews, drive directly to Mile 6.93, NOT on the runners' route. Runners must self-support until 6.93.	
0.93	Left Flamingo Ave.	
1.1	Cross Yacht Club Dr.	
1.22	Road bears right	
1.34	Left Salton Bay Dr.	
1.7	Right Montego Ave.	
1.87	Left Sea View Dr.	
2.46	Stay right on Salton Bay Dr.	
2.83	Left Honolulu Ave.	
3.4	Right Crystal Ave. (T-int)	
3.9	Left Sea View Dr. (SS, T-in)	
4.27	Right Salton Dr. (SS)	
5.8	Right Riviera Circle	
6.34	Cross South Marina Dr. (SS)	
6.5	Veer right towards wash (off-road)	
6.65	Cross under CA 86	
6.7	Left Service Rd.	
6.93	Right Borrego Springs Seaway / S22 (Last Gas until Borrego Springs) Crews drive directly here from start line.	

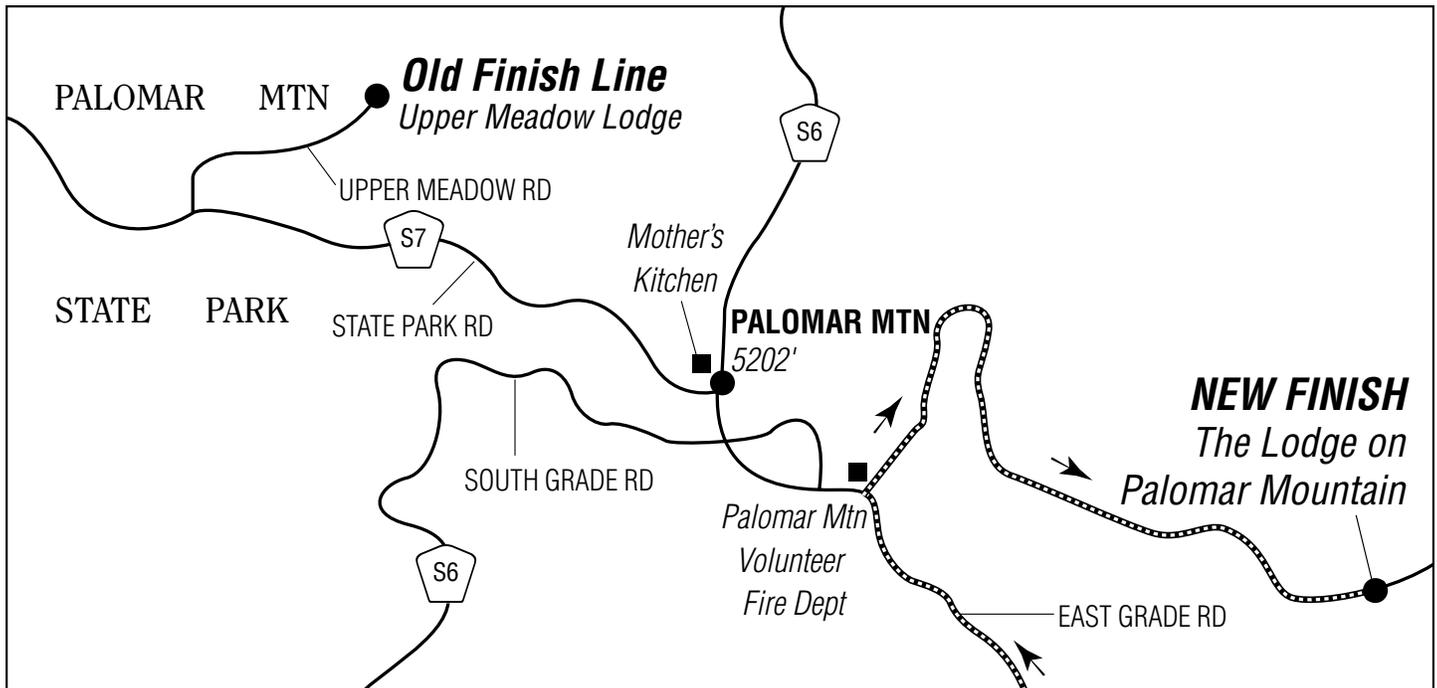
<i>Distance (ml.)</i>	<i>Landmarks</i>	<i>Time</i>
10.4	Cross Bantsch Trail (first climb)	
14.4	Time Station 1: USN Microwave Tower	
17.1	Big Scenic Overlook on Right	
19.3	Mile Marker 34	
23.15	Big walled pullout on left	
26.3	Mile Marker 27	
27.5	Pass Henderson Canyon Rd.	
28.3	Mile Marker 25	
29.15	Mile Marker 24	
30	Road bear right, becomes Palm Canyon Dr.	
31.35	Borrego Valley Airport & restaurant on right	
32.75	Left Borrego Valley Rd. (SS)	
34.46	Right Tilting T Dr.	
35.07	Right into Borrego Springs Resort	
35.23	Time Station 2: at resort lobby Runners must pass here by 1530!	
	U-turn here	
35.4	Right Tilting T Dr. (SS)	
36.6	Right Borrego Springs Rd. (SS)	
38.3	Left at Christmas Circle (runners may cut the corner)	
38.6	Pass The Mall: Café, Outfitters in back	
38.8	Last Chance for GAS!	
39.75	Left Montezuma Valley Road / S22	
40.55	Time Station 3: Right into dirt parking lot Runners must pass here by 1730!	
40.6	Enter California Right and Hiking Trail Support Crews, we recommend you go back into town for gas, supplies, and dinner, then proceed to 48.8.	
45.5	Pass east end of Culp Valley Fire Rd (connects to Montezuma Valley Rd)	

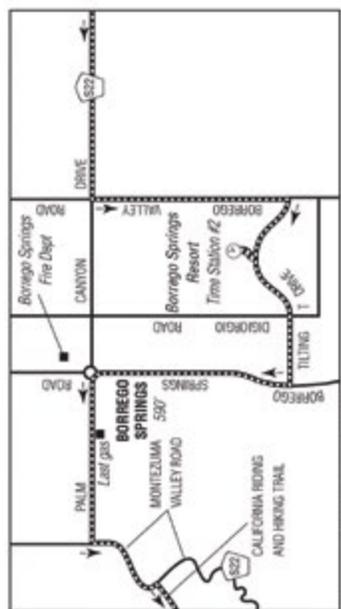
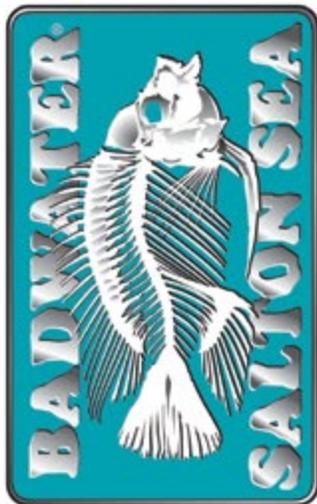


OFFICIAL RACE ROUTE

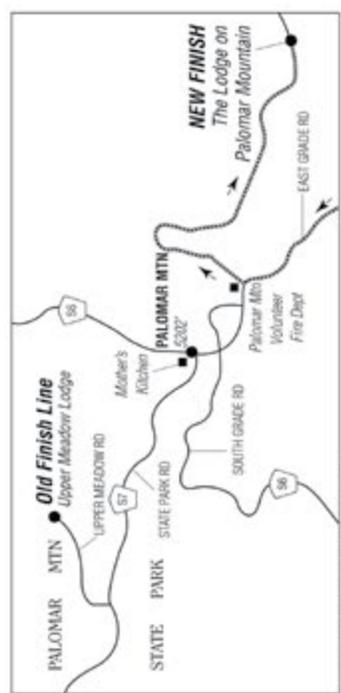
Support Crews: After runners depart up the California Riding & Hiking Trail, go back into Borrego Springs for any quick errands, otherwise drive uphill on Montezuma Valley Road and await your runners at the end of the trail (park on the right, just before the rocky summit of the road) or at the Ranchita Store. (Culp Valley Road, which cuts over to the trail, is a 4x4 track!)

<i>Distance (ml.)</i>	<i>Landmarks</i>	<i>Time</i>
48.5	Rejoin paved Montezuma Valley Road: turn right to go uphill	
48.8	Summit of Montezuma Valley Road Support Crews, park and wait in this vicinity while waiting for your runners to finish the trail section.	
50.2	Time Station 4: Ranchita Store on Right by "Rancheti"	
50.35	Fire Station	
55.25	Right S2 (T-int; yield)	
59.9	Left SR 79 (SS, T-int)	
61.6	Mataguay Scout Ranch on left	
62.2	100km Mark! Huge gravel pullout on right	
63.35	CA DOT "Lake Henshaw" HQ on right	
64.2	Right on SR 76	
67	Viewpoint / Call Box / Large pullout on right	
68	Time Station 5: Lake Henshaw Resort on left / Store / Fire Station	
Note:	Please Telephone Finish Line as Runners Pass Here!	
68.75	Right S7 / East Grade Road	
70.55	Mile Marker 1.8	
72.8	Mile Marker 4.0: View of the Pacific!	
76.8	Mile Marker 8.0	
78.9	Turn Right at Fire Station (just after Mile Marker 11: NEW DIRECTION FROM PREVIOUS YEARS!)	
80	Finish line at The Lodge on Palomar Mountain on LEFT at: 22228 Crestline Rd, Palomar Mountain, CA 92060	

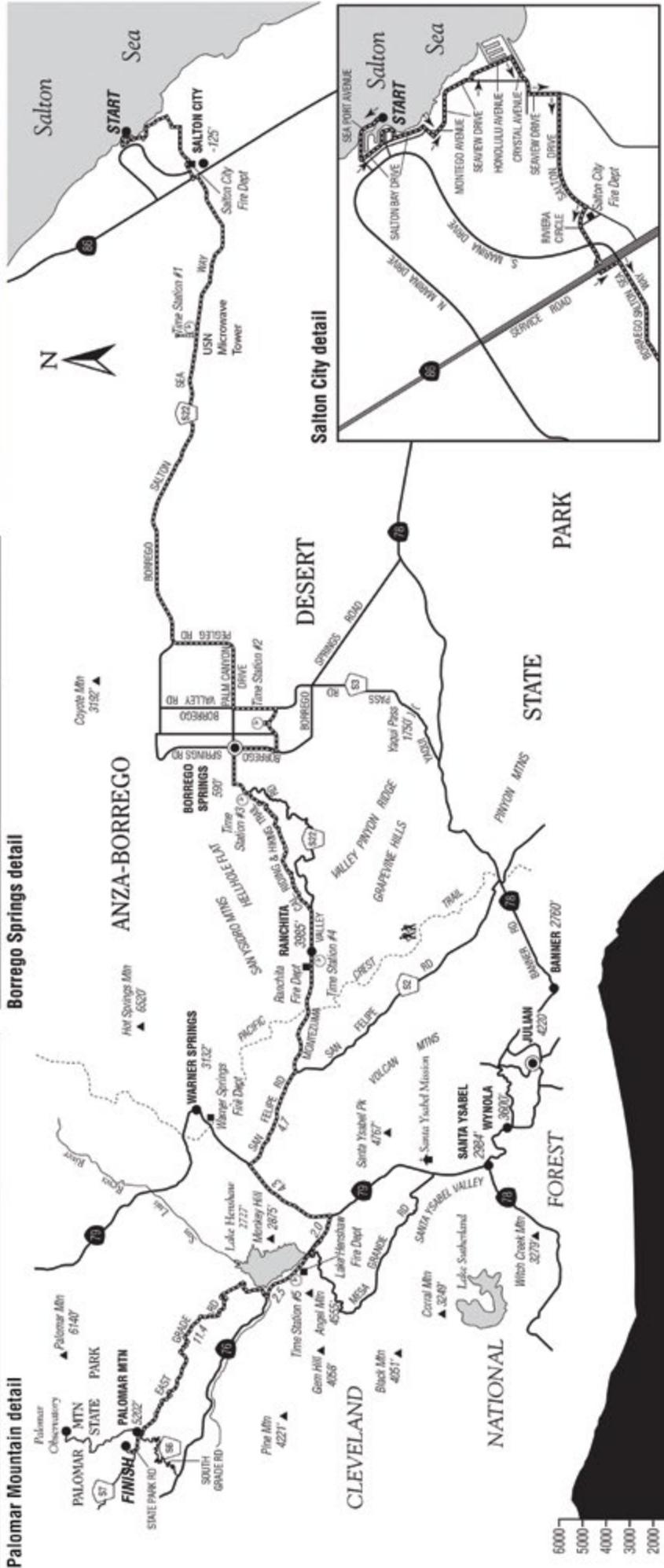




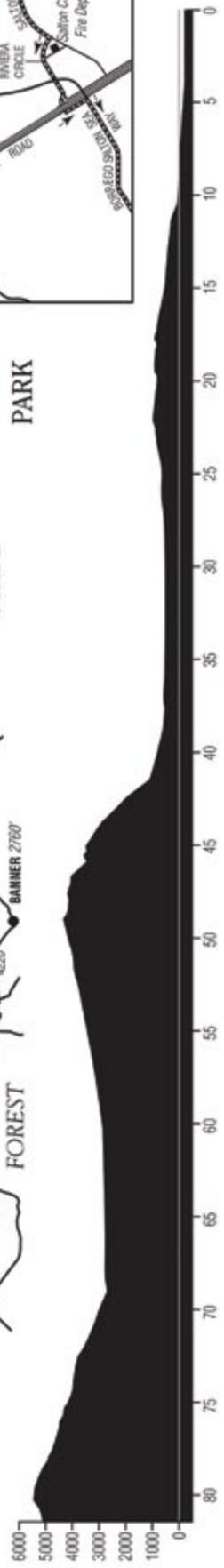
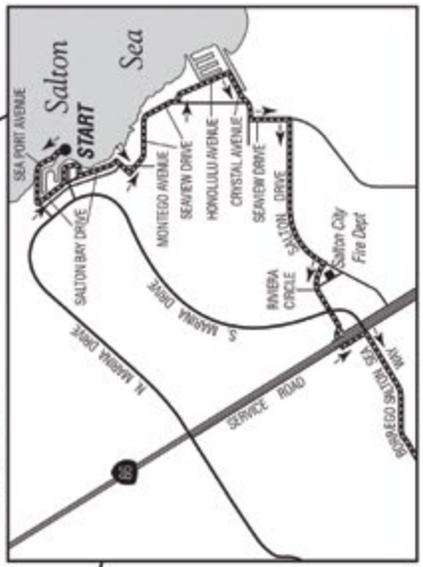
Borrego Springs detail



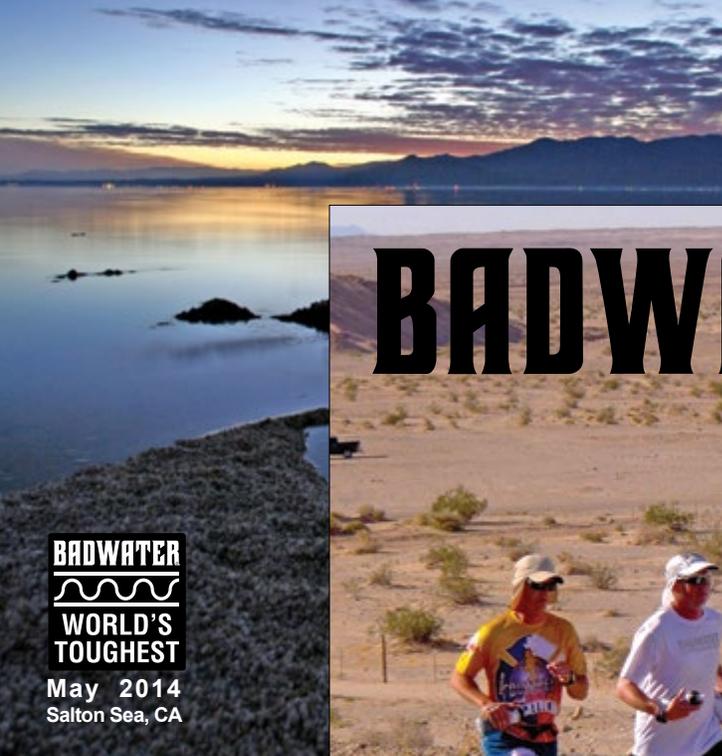
Palomar Mountain detail



Salton City detail



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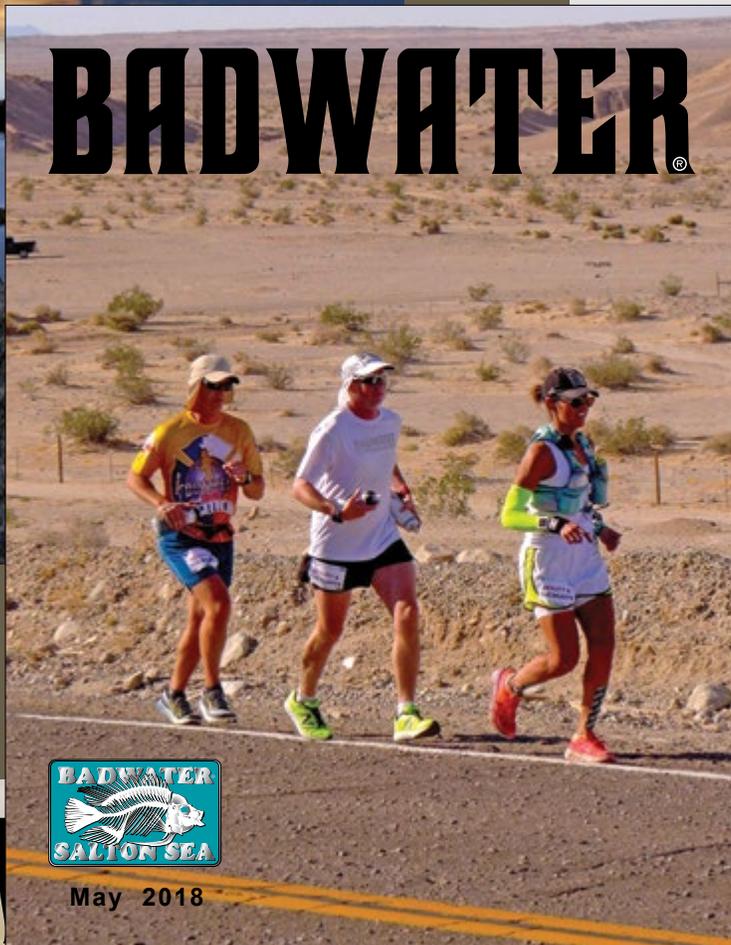
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May 2016

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May 2017