



COLD WEATHER CLOTHING FOR CANOEING AND KAYAKING

By Harry Rock

Congratulations on deciding to enter the Westfield Wildwater Canoe and Kayak Race! While paddling whitewater is both an exhilarating and challenging experience, you also need to be concerned with what to wear as April temperatures can still be chilly and the water quite cold.

Canoeing and kayaking are fun activities and exciting ways to enjoy the outdoors, plus develop new skills. They can become a meaningful lifelong sport and add to a healthy lifestyle. However, because they are outside activities highly impacted by the weather and the temperature of the water, paddlers need to educate themselves on how to properly dress for the variable conditions. LL Bean always states that there is “no such thing as bad weather, only bad clothing”, which is very true. It is also widely known that the key to survival in the outdoors is staying dry. Likewise, because paddling is inherently a wet sport, the key to taking care of yourself in damp and chilly conditions is your ability to remain warm. It is a generally well accepted fact within whitewater paddling instructional classes that when the combined air and water temperature is less than 100 degrees, a person needs to strongly consider wearing protective clothing and gear to protect themselves from exposure and hypothermia. So let's explore all of these factors.

HEAT LOSS

It is important to realize that the human body releases heat 25 times faster when it is wet than when it is dry. This heat loss is felt when you come out of the shower in the winter and you immediately feel quite chilly until you towel off and remove the source of heat loss. Contrary to this is the summer experience of being hot. You begin to sweat, which is the body's natural mechanism to cool itself to maintain the consistent core temperature of 98.6 degrees.

There are five means by which the body loses heat.

1. **Evaporation** - Body heat turns sweat into vapor, thus cooling the body.
2. **Convection** - Heat loss occurs by air or water moving across the skin surface and pulling heat away.
3. **Conduction** - Direct contact of the body with another object which transfers heat from the body to the object.
4. **Radiation** - Body radiates heat outward like a furnace, trying to warm up the surrounding environment, either air or water.

5. **Respiration** - Air is warmed, then exhaled, resulting in a significant loss of heat.

All of the heat loss methods listed above apply in a water-based environment such as paddling on a river. Paddling is a highly active and aerobic sport so there is considerable evaporation from sweat and respiration from heavy breathing. Because you are moving with the current and being exposed to wind, there is heat loss through convection.

If you are unfortunate enough to experience an early spring swim out of your canoe or kayak, then conduction and radiation will cause heat loss from the body. You have to think of your body as a furnace that is constantly releasing heat and trying to increase the temperature of the outside environment (air and water) to equal your body temperature. There is no way the body can produce and release enough heat to bring up the temperature of the river equal to that of the body, therefore hypothermia begins to set in which is the dangerous dropping of your core body temperature. To combat hypothermia, you must wear enough insulated clothing to hold in body heat and protect it from getting wet.

CLOTHING AND PROPER INSULATION QUESTIONS TO CONSIDER

1. What are the **temperatures** you will be exposed to throughout the day?
2. **How long** will you be away from dry clothes, hot beverages, food and a heat source?
3. What **level of aerobic activity** will you be engaging in for generating body heat?
4. Will you be in warm sunshine or chilly **conditions** that are overcast with rain and wind?
5. How high are your risk percentages for **flipping your canoe** based on personal experience, skills and water conditions?
6. When is the **last time you ate**, providing fuel for the body to generate heat and energy?
7. Have you **consumed alcohol** or ingested other drugs prior to getting on the water, thereby allowing blood vessels to dilate and release higher levels of heat while on the river?
8. Do you have the **ability to quickly vent heat** from the body if you feel you are becoming overheated?

RECOMMENDATIONS

1. **Wetsuits and drysuits** are highly recommended when temperatures are cold and there is a strong possibility of flipping one's canoe or kayak.
2. At a minimum, **water resistant or waterproof paddling tops and bottoms** should be considered for protection against the elements. Synthetic or wool based long underwear, both tops and bottoms, is recommended for wearing under paddle jackets and pants.

3. Even if the air temperature is warm, take in consideration the **water temperature** if you do take an unexpected swim where your body is essentially trying to heat up all of the water around you. This will rapidly exhaust your ability to generate heat which will result in your core temperature dropping and thus becoming hypothermic. This should directly influence the type and amount of clothing you need to be wearing.
4. **Cotton “kills” because it has absolutely no heat insulating value** when it gets wet, as well as being very heavy. Think of how long it takes for cotton towels or jeans to dry. Cotton wicks water (think of oil lamps) so that clothing will become very wet even if only the edge of it is in water. You need to be considering wearing high-tech synthetic fabrics as well as wool based products which don't wick water, that dry quickly, and maintain warmth even when wet.
5. **Consider what to wear on your head and neck** such as wool hats, skull caps and/or helmets to keep it warm as this area has the largest percentage of heat loss for the body because of how much blood travels to the brain and how close to the skin surface it is. This makes the head the most important part of the body to insulate in an effort to keep the body warm. Likewise, in warm conditions, lightweight synthetic skull caps are recommended to help release heat from the head in order to prevent the body from overheating.
6. Consider wearing **synthetic or neoprene paddling gloves** to keep your hands warm and to prevent blisters.
7. **Wool socks are crucial to wear for warmth under paddling booties or shoes** as your feet are generally immersed in cold water in the canoe or kayak for the duration of the race, especially when exiting and entering the boat during portages. There are also waterproof socks that you can wear over your wool socks to help keep the feet warm.
8. Bottom line, **sweatshirts, sweatpants, tank tops and exposed skin are all bad choices** when paddling in spring conditions, regardless of how warm the air might be as you need to consider the strong possibility of a canoe or kayak capsize in very cold water. Take into consideration how long you will be in the water before getting to shore, how long it will be before you are reunited with your craft and how long it will be before you are able to change into dry clothes.
9. **Do not drink alcohol or ingest other drug based substances** that would prevent the body from functioning properly for creating and preserving heat. You also need to ensure that you have the best decision making ability possible when taking on a potentially risky activity such as paddling!
10. Always **make sure you are wearing a Coast Guard approved Type III over-the-shoulder life jacket**, and that you have an **extra paddle and a bailer**. It is a good idea to have **painters (lines)** attached to each end of your boat to help pull it to shore when you have wet exited your canoe or kayak. There should also be floatation in the canoe or kayak to help with rescue and to limit damage to submerged boats after capsizing and wet exits.

11. **Helmets are strongly recommended** for safety when paddling on a whitewater river.

Finally, have a great time! Paddling on the river is a truly fun and enjoyable experience, and if approached correctly with the right equipment and clothing, it will become an outdoor activity that you and your family will want to participate in for years to come.

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