



## **Inflatable PFD's and Paddlesport Usage (V3) Instructor Information Brief from WeKanu September 2014 (Links monitored Jan 2017)**

### **Overview**

For a variety of reasons, mostly comfort, the Inflatable PFD is being used more and more these days by paddlers. As ACA instructors it is important to stay informed on the regulations, uses and issues surrounding these alternative PFD's. We are being asked about them and we are seeing a surge in waist belt PFD's usage related to SUP's.

We have tried to pull together some resources to help you to be better informed, but as always, it is important to do your own research to become more familiar with this style of PFD. In this brief you will find the following:

1. Article by an ACA Instructor and kayak fisherman on wearing PDF's that provides some good perspectives and tips on encouraging people to wear their PFD's.
2. Article on the legal requirements for Inflatable PFD use.
3. Series of YouTube links. These are comprised of both general use/safety and manufacturers clips. Most striking in all of the videos is that once inflated, the PFD is large and appears unruly.

We encourage you to draw your own conclusions on Inflatable PFD's and be knowledgeable enough to provide paddlers with informed opinions on best uses, limitations and options as well as the facts on the regulations for wear and acceptable usage.

### **Considerations for Class/Event Participants**

Inflatable PFD's do fulfill the ACA requirements for PFD wear in any ACA sanctioned or insured event, however, unlike a standard (inherently buoyant) PFD, there are three important areas of additional scrutiny that an instructor may want to investigate. In addition to the PFD being properly fitted and secured, the instructor may want to ask the wearer the following, or go a step further and ask for proof:

1. Is the inflatable USCG Approved (does it have those words prominently printed on it)? Not all inflatable PFD's are.
2. Is it in proper working condition (properly armed)? Has it been test inflated (by the manual tube is acceptable) to ensure there are no leaks?
3. Has the wearer actually inflated it in the water and been able to don it properly and effect a rescue in it? Does the PFD self inflate or does it require a manual inflation with the pull?

Knowing this information is important. Depending on the answers, there could be an additional level of risk that the instructor needs to assess for the safety and well being of the individuals in the group as well as themselves. An inherently buoyant PFD does its work automatically. An inflatable may need to be activated and then put on. In many cases, the dexterity of the wearer in the water is diminished thus making any rescues more challenging.



### Additional Considerations

- It is also worth noting, that once an inflatable is inflated using the Co2 charge, the PFD must be left inflated for the remainder of the class/event. Otherwise, if deflated, the only option is to manually blow into the air tube, but that is a time consuming process and one that increases the risk for the person in the water and lengthens the rescue sequence time. Many paddlers find the inflated PFD to be uncomfortable and it interferes with their paddling.
- From a safety perspective, it is exceptionally difficult to pull a person into a paddle craft by grabbing their inflatable PFD. Standard PFD's, when properly fitted can be grabbed by the shoulder straps to help right a boat, pull a paddler into their boat or assist an injured paddler. There are no shoulder straps on inflatable PFD's. They are only secured at the wearer's waist so the collar can slip over their head unless they are securely hugging the inflated portion. And if they are hugging the inflated portion they are not able to use their arms to assist with the rescue.
- A disconcerting aspect of the inflatable PFD is that some wearers make a judgment on whether to inflate the PFD or not. Discussions on message board and conversations with Inflatable users show that there is a concern about the cost and effort (each inflation by the Co2 cartridge cost about \$20 to rearm the PFD and the time to dry, rearm and repack), as well as their opinion about their swimming ability and the lack of mobility with the inflated PFD while in the water (making rescues more difficult). This creates a level of complication to calculating the risk factors for the instructor and may compromise any rescue situation. Risk factors include:
  - Not knowing if a swimmer not inflating their PFD is:
    - by their choice – judgment call on their part to swim without it
    - is an equipment malfunction
    - Their physical inability to do so (injury or lack of consciousness).  
Although obvious, it is important to note that an un-inflated PFD will not bring an unconscious person to the surface.
  - Reduced safety in a rescue situation where the rescuer is wearing an Inflatable PFD. They have less inherent buoyancy which may be needed to assist with righting or steadying another boat; if they are pulled in they now need to make choices on inflation, and/or reduced mobility in their craft to affect a rescue if their PFD is inflated.
  - Possible additional time required to affect a rescue due to either an un-inflated (by choice or malfunction) PFD or an inflated one. In a group situation where there is the potential for more than one capsize (outing in waves or wakes), the more time each rescue takes, or more physically demanding each one is, the higher the risk for the safety of the group.
- People also wear skirts while in kayaks. If a kayaker is skirted, and is wearing an inflatable PFD, the sequence for that person is now changed. Do they make the decision to pull the inflation tab, and then go through the wet exit process, or wet exit and then



inflate? Coupled with the discussion above on choosing to not inflate, the risk factors are increased dramatically. It is highly doubtful that any individual would practice two, three or a dozen or more Co2 inflation events to test out and perfect the proper sequence for a wet exit. An inherently buoyant PFD provides instant assist in these capsize situations and also in skirted rescues such as the Eskimo Rescues. An un-inflated PFD is of no assist, but it is also uncertain what affect inflating it would have. The waist pack version must be put over the head so that is an extra step of finding it (as it would move towards the surface without the person), and pulling it towards you, effectively requiring the wearing to do that and not be able to pull a skirt or hold on to their paddle.

### Summary

Unfortunately many users of the Inflatable PFD's do so only because of the comfort factor in wearing it and it allows them to comply with the law. They have not thought through the trade-offs and "best use scenarios". Frequently, those who choose this path are less athletic, not aware of these other factors and in most cases have never inflated it, worn it in the water, or tried any form of swimming or rescue with it on. Each instructor should think through their "Conditions for being allowed to wear an inflatable PFD in this class" guidelines. Knowing your position before you are faced with the situation will help to mitigate risk to the group and you.

We have developed these general questions and guidelines regarding the use of inflatable PFD's in our classes:

1. **Assess what type of water will we be on and how far from shore.** The higher the potential for capsize or exposure (waves, wind and wakes) and thus need for rescue, the higher our preference for all participants to be wearing inherently buoyant PFD's (IBPFD).
2. **Water Temperature.** Early season and late season the water and/or air is colder. It is a proven fact that a PFD wearer has about an hour of time before the effects of hypothermia set in (vs. 10 to 15 minutes)[See Cold Water Boot Camp]. This is because the IBPFD wraps around the body and preserves heat. The Inflatable PFD's however, do not wrap around the body, but rather are of a horse collar shape and only provide protection on the front. Also, inflatable PFD's do not provide any wind protection or heat retention when worn which requires the paddler to add other layers of clothing to stay warm. At times, wearers make poor choices in fabrics and layers to stay warm which could compromise their heat if they end up in the water.
3. **Level of practice the wearer has inflating, swimming with and paddling with it inflated.**
  - a. They need to show they know the process for securing it once inflated
  - b. What happens when in the water to their mobility
  - c. Understand the decreased ability for a rescuer to grab the PFD to affect the rescue as well as their decreased mobility.
  - d. That if inflated, it must remain inflated for the remainder of their time on water until they can go ashore to deflate, rearm and repack it.



If they have little or no practice **inflating, swimming with and paddling with it inflated**, then they need to wear an IBPFD.

4. They need to prove it is USCG approved and properly armed. (Watch manufacturer's videos for instruction on knowing when an inflatable is properly armed).
5. They need to show you that they have extra rearming kits available (especially for longer programs), and one should be on the water with them.
6. For the overall safety of the group and the ability to perform the quickest and safest possible rescues, we do not allow waist pack Inflatable PFD's in our classes or on outings.
7. If wearing a skirt – prove their level of wet exit practice with the inflatable. Need to convince me they have done it and perfected their wet exit with it, otherwise they need to wear an IBPFD.
8. Is their inflatable PFD an automatic or manual inflator? If manual, discuss the circumstances that they may choose “not to inflate”. If they do indicate that they make a judgment to inflate or not, then they must wear an IBPFD. We will not put the class at risk or need to add layers of additional risk by not knowing if the lack of inflation was on purpose or not.
9. Overall, am more likely to allow an auto-inflating PFD to be worn as it eliminates the personal judgment factor.

These are some guidelines and not hard fast rules, and we encourage all instructors to develop their own list so that they are prepared to create the safest set of circumstances for the group and themselves.

It is important to keep in mind that although as paddling instructors because we require PFD's be worn now and the inflatable PFD is not ideal as it actually introduces additional levels of risk into our environment, its primary purpose is to get PFD use up. And it is doing that. It does address some of the biggest reasons people do not wear their PFD's – discomfort and heat. Inflatable PFD's are cooler and more comfortable to wear (and must be worn to be legal). But they do come with other risks, and we need to be sure that we are able to mitigate those risks and also make our students aware of the tradeoffs. The manufacturers of dedicated paddling PFD's do understand this challenge and have created extremely comfortable, cool and functional Inherent Buoyancy PFD's at less cost than the Inflatable PFD's, and without the recurring expenses created by use. So the IBPFD is still a great choice as it maximizes safety for everyone but has limited utility if it is not worn.

The best option for us as instructors, is to be encouraging of any and all methods that help to make our students and the people they influence safer while enjoying their favorite paddle sport.



## Articles

### **“Wear Your PFD,” Sea Kayak ‘Elitists’ Urge ACA instructor Jeff Herman wants to save your life.**

<http://www.kayakfishmag.com/tips/pfds/>

**“Wear Your PFD,” Sea Kayak ‘Elitists’ Urge  
ACA instructor Jeff Herman wants to save your life.  
By Jeff Herman**

The very first time I took an American Canoe Association (ACA) class I thought the instructors were crazed sea kayak elitists with an insatiable and inexplicable fetish for PFDs. Seriously, I was just a fisherman and these guys were preaching technique and safety and more safety. It was like attending a half day calculus lecture. In a word: Painful.

A few months later I spoke about kayak fishing for the Texas Parks and Wildlife. During the seminar a TPWD official talked about drowning deaths and boating accidents. He highlighted the vast difference in statistics between those accidents where folks wore PFDs and those who didn't. Accidents without PFDs had a much poorer outcome than those accidents where folks wore life vests.

I soon reexamined my stance on the ACA. In fact, the more I thought about it the more sense it made. The ACA's sole purpose has always been to serve the paddling community. Kayak fishing was pretty new to the ACA back when I started and they didn't have a frame of reference for anglers. These days their instructors, like me, are much more aware of a kayak fisherman's needs and expectations. Really, the ACA is comprised mostly of folks who just want to make things better, to educate, and to inform their fellow paddlers.

Six years ago or so, I received my instructor certification through the ACA and even since then the ACA has changed. Today it's not just sea kayakers and white water paddlers but also kayak fishermen and SUP devotees. Funny though, one thing that hasn't changed since that time is some people's aversion to having a conversation about PFDs. The same aversion I initially had the first time I took an ACA class.

If you made it this far, please keep reading. I promise no calculus lectures just the retelling of a tale and some real life experiences of a paddle instructor. Even if I can't change your mind I hope I can clarify my perspective on PFDs for whatever that is worth.

I do kayaking seminars every few months. I start them off the same way every time with a conversation about safety. Here is the riff I use:

"I suspect you drove here today. I also suspect you wore your seat belt as you drove to this seminar. I'd also bet that you did not get in a car wreck coming here... (pause for dramatic effect) ... but you wore your seat belt anyway.

Yeah?

The same simple idea applies to wearing a PFD when you kayak. You have to have it on when you need it. Period. Just like a seat belt.

You can go kayaking a hundred times ;  
five hundred times,  
five thousand times,  
and never need a life-vest, but the one time you do need a PFD? It had better be on your person (and not in a hatch or a tankwell) just like a seatbelt."

Yes, it is a personal choice and I don't think folks that go without one are bad people. I just think your assumption of safety is exaggerated. Additionally, it is somewhat disrespectful to the other paddlers with you, as you increase their risk by going without. If we were paddling together and you had a problem, I would certainly try and help. If you are wearing PFD, it would make it safer for others to assist you.

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What I have seen personally when I teach deep water reentry, is that about 20 percent of the folks struggle with self rescue. Some folks even have difficulty with assisted rescues. In a real life situation, with no PFD those odds just don't work.

That is my take on PFD's. If you still don't want to wear one that's cool. Let's go fish anyway. I'll meet you at the launch. Just know that at some point during the day I might start talking to you about seat belts.

*Jeff Herman swears he is an angler first and a paddler second. We're not so sure, but still like him anyway. Herman is a pro staffer for Jackson Kayak.*



The following article was originally published as part of a sailing website. It does however cover the universal Coast Guard regulations regarding Inflatable PFD's as well as presents the “pro” side of the discussion and that is why it is included here. It does not however deal with any of the “cons” and the comment on delaying hypothermia is misguided and incorrect in actual practice.

## Legal Requirements for Inflatable PFDs

By Tom Lochhaas

<http://sailing.about.com/od/lawsregulations/a/InflatablePFDlegal.htm>

In 1996 the US Coast Guard began approving inflatable personal flotation devices (PFDs) to meet the requirement to have onboard one PFD per person. Although inflatable PFDs are somewhat more complicated than standard lifejackets with inherent (built-in) buoyancy, and certain specific requirements must be met, automatic inflatables offer key advantages for sailors, especially those going offshore. Inflatable PFDs must meet Coast Guard rules.

Gary Jobson, head of U.S. Sailing and a winner of the [America's Cup](#) race, explains the importance of wearing a PFD and [the advantages of using an inflatable type](#).

Many inflatable PFDs now manufactured feature both automatic and manual inflation modes. The automatic mode is simple in concept but more complex in engineering. A cylinder of compressed gas is connected to a firing pin, which is engaged when the mechanism is immersed in water. If this mechanism does not fire automatically after immersion, the user can jerk the manual inflation lanyard (the yellow handle in the photo) to activate the firing.

After firing, the compressed gas rapidly inflates the buoyancy bladder, which expands out of the encased fabric housing worn over the shoulders and around the neck, providing significant buoyancy. A tube with a one-way valve is also connected to the bladder, allowing the user to blow air into the bladder for buoyancy if the automatic device fails or if the gas gradually escapes after inflation.

## Legal Requirements

Some inflatable PFDs are Coast Guard Type I PFDs, which means they are designed for use offshore and should turn a wearer who is unconscious on the back and keep the person's face out of the water. Type I PFDs have the greatest buoyancy. Other inflatable PFDs may be type II, III, or V, with varying amounts of buoyancy and other design differences. Most important, consider which type is safest and most appropriate for your own boating needs.

Following are the legal requirements for using an inflatable:

- The PFD must be USCG approved, as indicated by a label on the PFD. (Some early models were not approved and may still be in circulation, although most units manufactured presently are approved.)
- The PFD must be the appropriate size for the user.
- The PFD must have a full cylinder and the firing mechanism must have a green status indicator showing that the device is armed and ready for use (shown in the detail photo).
- The PFD must be in good condition, including the inflating device, the air bladder, the oral inflation tube, and the manual inflation lanyard.



- The PFD must actually be worn to meet the USCG carriage requirement for having one PFD onboard per person—unlike inherently buoyant lifejackets, which are not required to be worn at all times (except by children) but which must be readily accessible.
- Inflatable PFDs do not meet the requirement for users under age 16 (because they may not be mature enough to understand how to use the manual inflation mechanism if the automatic mechanism fails).
- Inflatable PFDs are not recommended—though this is not a legal requirement—for nonswimmers (who may not be able to keep their head above water long enough to use the manual mode or the oral tube for refilling the bladder).

### Advantages of Inflatable PFDs

- **They are more comfortable to wear because they are less bulky.** An inherently buoyant lifejacket that is carried but not worn at all times does meet the legal requirement but can't save your life if you go in the water without it. Sailors are more likely to actually wear an inflatable type at more times than a regular lifejacket, especially when wearing a bulky jacket or foul weather gear.
  - **Many inflatables provide more buoyancy.** A standard noninflatable adult-size lifejacket provides 15.5 to 22 lbs. of buoyancy, depending on its type. Many models of inflatable PFDs provide 33-34 lbs. and will therefore keep the user's head higher out of the water, making it easier to breathe and lowering the risk of hypothermia.
  - **Many inflatable PFD models designed for offshore sailors have a built-in harness.** When connected by a [tether](#) clipped to the boat, the harness helps keep the person from going overboard in dangerous conditions.
- The primary disadvantages of inflatable PFDs are their higher cost and need for regular service and replacement of the gas cylinder after use.

### Is an Inflatable PFD Right for You?

As the Coast Guard says, the best PFD is the one you will wear. Because many inflatables are more comfortable, you can easily get used to wearing one. Common sense says it's best to wear it *all the time*, not just offshore, because most drownings occur when people fall off boats relatively near the shore, even in calm water.

Finally, if you are flying somewhere to get on a boat and want to take your inflatable, note that some airlines restrict carrying PFDs with gas cylinders or have special rules for checked or carry-on baggage. The FAA allows these cylinders but leaves it to each airline to set their own restrictions. Check the airline's website before you buy your ticket.



**Video Links** (all of the links listed below were functional as of Jan 2017 but may not be currently active.)

Inflatable demo – Canadian CG – B roll film that demonstrates how a person floats in an inflatable.

<https://www.youtube.com/watch?v=DLeDQiYHGyU>

Manufacturer Video Links

ONYX demo

<https://www.youtube.com/watch?v=DB1K2wJC8Vc>

MTI video

[https://www.youtube.com/watch?v=6eU27eGT\\_TA](https://www.youtube.com/watch?v=6eU27eGT_TA)

NRS video

<https://www.youtube.com/watch?v=x8v5TmoBZfs>

There is also a wide variety of other videos on inflatable PFD's, some professional and some amateur. It is worth taking a look as there are some themes that emerge, such as the “surprise” at the suddenness of the inflation; the challenge of getting the horse collar on; the high buoyancy which makes swimming and mobility more challenging than with an IBPFD; and the lack of proper fitting or wear (one SUP'er commented how comfortable it was to put the waist pack to their back and get it out of the way – to which the camera person noted, it need to be on the front to work). What is also noticeable is the lack of videos that show canoe and kayak rescues with Inflatable PFD's. If you venture into the discussion boards, you will find the “when not to inflate” discussions, which are primarily with fishermen and hunters. What some kayak fishermen have discovered is that self rescue back on to a sit-a-top with an inflated PFD is much more difficult that either with it not inflated or with a traditional PFD.

Do your research and be prepared to professionally and expertly answer inquires and also assess the risk and safety issues for your students and fellow paddlers.

Jeff and Laura Liebel – ACA Certified Instructor Trainers (L3 Touring Canoe; L2 Kayak Touring)  
For more information, go to [www.WeKanu.com](http://www.WeKanu.com)