Weight Classes in Cat.1 Paragliding Competitions

INTRO AND PREMISES TAKEN IN THE ANALYSIS

I have read several ideas revolving around the introduction of weight classes in FAI Cat.1 events. The underlying goal behind weight classes, as I understand it, is for *increased safety* due to *lowering incentives to use a lot of ballast.*

The other premise I use is *Cat.1 events are or intend to be high level events*, in which we search for the best pilots to compete against each other. There are some proposals that seem to go against this premise, such as Sport Class Cat.1 events. I will keep the analysis focused on the actual Cat.1 scheme.

MAIN IDEAS WITH WEIGHT CLASSES

There are different ideas around weight classes, but they can be analysed by recurring to the two extreme ends of the spectrum:

1. Lightweight Class ("Reynolds", etc.): a single lightweight class, usually set at 95 kg all up (PTV), that will award a separate title from the general classification
2. Many weight Classes: a series of classes separated by 10 kg all up intervals, in order to accommodate most of the pilots, and with separate titles for each without a general classification title.

In terms of the basic goal of lowering incentives for the use of ballast, alternative 1 is very limited. All lightweight pilots will still need to ballast up to near 95 kg in order to be competitive. So a 50 kg pilot will carry no less than 40 kg of equipment + ballast, which represents 80% of their body weight. For pilots not lightweight enough to fit into the 95 kg. class, then the actual situation persists. They will ballast up to fit into the PTV size of wing they consider to be competitive enough. We are talking here mainly about pilots in the 70s body weight range.

On the other hand, alternative 2 is much more effective in the goal of lowering incentives for the use of ballast. If we have weight classes starting at 75 kg all up, then it can reasonably accommodate almost all pilots with no need of major ballast.

An important topic to mention here is if we want to respect pilots´ choice to fly the weight class they want to compete in. For various reasons, a pilot might want to compete in a superior class from his "natural" one. This has been the experience with Reynolds class in the USA according to Josh, in which no top pilot wanted to compete in the <95kg class, and they wanted to compete against the best of their competitors. These same reasons can make pilots take some extra ballast to compete in the next class, either because they think it would have more prestige, or they just want to measure themselves against pilots from that class. This situation can exist in both alt. 1 and alt. 2 ideas.

MAXIMUM EQUIPMENT PLUS BALLAST LIMITS

One topic that revolves around the various ideas to solve the "weight" issue, is the one related to *reimposing maximum equipment + ballast limits*. Flying with a heavy combination of equipment and ballast is without doubt a safety concern and this concern is the main premise to back up the introduction of all weight solutions. In particular, take-offs and landings are much more delicate. Only pilots with superior technical skills and fitness can deal with the excess inertia given by the weight, and reduce the chance to getting injured, but they cannot eliminate it completely. If safety is a primary concern, it seems logical to reimpose maximum equipment + ballast limits.

But that safety measure, if applied to alternative 1, would leave all <60 kg pilots out of the possibility of being competitive, forcing them out of top-level competitions. When applied to alternative 2 there is no problem here. In today´s environment, the lower weight classes (75kg, 85kg.) would be flown only with sport class gliders, but that could change in the future if manufacturers see a market for high performance small wings.

CAT 1 STRUCTURE AND SELECTION PROCESS

Currently there is a debate in regards to Cat1 selection process, particularly in the **World Championship**, because many of us think that actual format is a mix that serves no purpose whatsoever. It is not the competition of the best individual pilots, because quotas by country prevent many of the top pilots to be able to attend this competition. The same is happening at the female level, where NACs have to make a choice in entering additional female or additional male contenders in the event. And the same is happening at the nation's level because team sizes are unequal, and flying tactics for some pilots might be contradictory if pursuing individual or team result.

This is an entirely different topic that needs attention, but now I want to stress the challenges we encounter when trying to incorporate Weight Classes in a Cat.1 environment.

If we want to make an impact on Cat.1 events, then we must somehow enforce the selection of pilots in all weight classes and across all genders and not leaving it up to NACs to do as they please, or as they can. But this enforcement clearly aggravates enormously the selection quota issues.

Today we have teams of 2+1 in Cat.1 because of not enough quota available. With the simplest weight class proposal of adding only one lightweight class across all genders, then we should be selecting 1+1+1. This can make NACs select less qualified pilots just to fulfil the quota issues. But if we keep team scoring to be the two best scores, these NACs will be even more handicapped than today as we know small gliders have less performance.

Today the Worlds is like a Football World Championship where some teams play with 11 players and other teams play with 7 players. With lightweight quotas, we would have the equivalent of some players playing not at their physical 100% condition in all teams

I am assuming we keep a unified Cat1 event. That is mainly because of financial concerns for NACs and the feasibility of filling up separate events. Many NACs pay most of the bills of a Cat1 event for their pilots. Most of them are already on the limits of financial support because of the growing quantity of events (Accuracy, Junior Events, Hike&Fly?, etc.) Some NACS only pay for some events, some even partially for some events, some pay nothing. So if we accept pilots start paying from their pockets, the NACs financials can be salvaged, although the availability of sufficient capable organizers and willing voluntary FAI officials would be another hurdle.

A separate Female World Championship has been debated in the past, and if I am not mistaken, the feasibility of having enough qualified contenders was the main reason to discard the idea. So having enough qualified contenders for some of the weight classes proposals in separate events

FEMALE REPRESENTATION AND COMPETITION

Although most female could fit into the lightweight class, there could be some female pilots that cannot accommodate to that class. So we would have a competition with extremely few female pilots above the lightweight class, or perhaps many of them if they still fly with lots of ballast and try to compete for the overall female title (and the overall general title)

Many weight classes exacerbate the representation issues among female pilots.

NAC ISSUES AND PILOTS DECISIONS

Small NACs already have few pilots competing at the highest levels. With weight classes, this will be exacerbated.

Pilots would need to decide to fly smaller gliders to compete at Cat1 events weight classes, but forfeit their chance to compete at their national level for overall titles. They can even be left alone competing against themselves inside weight classes.

Few pilots can have different size gliders for different competitions

The nuances present in all these weight classes' decisions are so many, that it is very difficult to even try to cover all aspects. It is easier to have a detailed proposal and then work specifically on the issues at hand with that proposal.

Summary Tables for Top Level Competitions

(based on high pilot level aspiring to be competitive)

	Weight Class Proposal	TARGET: Reducing the use of ballast down to safety limits	Side effects (Positive and Negative)	Challenges
Actual weight rules (no limits) NL	One Lightweight class (<95 kg.) (LWC)	Ineffective Only small pilots might comply with the target, if and only if they want to	+ Simple to implement + More pilots happy with medals (applies also to WL) - Title dilution and lesser value to LW title (applies also to WL)	No incentive for manufacturers to develop smaller sizes
Weight limits (total 33 kg.) WL		Ineffective Only a limited “naked weight” pilot group, would be effectively reducing actual total equipment weight	- Small Pilots (< 57 kg.) effectively banned from competition - Some Pilots (57 kg. < P > 67 kg.) forced into a class they might not want to compete in (LWC) - Some pilots (67 kg. < P > 77 kg.) forced to fly a glider size not competitive in its´ class	No incentive for manufacturers to develop smaller sizes Weight controls required to enforce rules, at various instances

	Weight Class Proposal	TARGET: Reducing the use of ballast down to safety limits	Side effects (Positive and Negative)	Challenges
Actual weight rules (no limits) NL	Multiple Weight classes (at least 6 classes with 10 kg. intervals) with no overall winners	Effective only as long as pilots decide to comply with the target	+ Many more pilots happy with medals (applies to WL) - Some classes might have very few contenders because of pilot choice to compete in other class - Total title dilution and some classes might be perceived as more important than others (applies to WL)	Having several races happening at the same time (all classes) or having to separate in space and time the 6 classes
Weight limits (total 33 kg.) WL		Effective	- Pilots forced into a class they might not want to compete in + Manufacturers might have incentives to develop competitive wings in all weight classes - Some classes might have fewer contenders because of pilot weight distribution	Having several races happening at the same time (all classes) or having to separate in space and time the 6 classes Weight controls required to enforce rules, at various instances

Weight Class Proposal	Category 1 events (a.k.a. PG Worlds)	Qualification and pilot selection rules	NAC Challenges
One Lightweight class (<95 kg.) (LWC)	Special implications for these type of events	Will a 1+1+1+1 initial selection be enforced to assure minimum representation of all classes? (1 LWC of each gender + 1 heavier pilot of each gender) How to deal with world demand? (last FAI Worlds had 57 nations represented) How to deal with nations not able to provide qualified pilots in some of the classes and the consequence of having a reduced team size? How should team scoring be calculated in order to preserve fairness?	Should NACs promote weight loss or weight gain in order to fulfil selection quotas? For medium and small NACs, in which their national championship actually include several classes (such as Standard, Sport, Serial, Female and Senior), should all of them open a sub-category for LWC in order to guarantee fairness? Many of those could be vacant or single competitor attended. If only one LWC is put in place, then there is no incentive for light pilots in lower glider classes. A light pilot that aspires to be National Champion should resign his aspirations in order to be just the LWC champion (perhaps with no serious competition)?

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Multiple Weight classes (at least 6 classes with 10 kg. intervals) with no overall winners	Special implications for these type of events	Will NACs decide which weight classes will have representation and which not? We will have 6 separate championships in one? We will have 6 separate championships with all the financial implications for NACs and the need for suitable organizers?	For medium and small NACs, it will be virtually impossible to accommodate all these weight classes in their national championships that already have glider, gender and age classes