Landing Gear vs Single Skid vs None

Landing Gear (wheels)		Single Skid		None	
Pros	**Cons**	**Pros**	**Cons**	**Pros**	**Cons**
Least potential of damage to wing on landing	Most weight	Likely less weight than wheels landing gear	More weight than none	Least weight	Must hand launch or use Launch rail
Ability to take off from the ground, hand launch, & launch rail	Most drag	Less drag than wheels landing gear	More drag than none	Least drag	Must use folding propeller or will break propeller on landing
Don't need a folding propeller lowest risk to propeller		Do not need a folding propeller	Must hand launch or use Launch rail		Also Higher potential of damage to wing on landing
Can always abort a landing after touchdown		Potential to abort a landing after touchdown	Higher potential of damage to wing on landing		Cannot abort a landing after touchdown

Landing Gear Options: Pros & Cons

Conventional (Tailwheel) Landing Gear - Steerable		Tricycle (Nose wheel) Landing Gear - Steerable	
Pros	**Cons**	**Pros**	**Cons**
Less weight	Slightly less ground controllability (CG aft of main wheels)	Best ground controllability (CG forward of main wheels)	Higher weight
Less drag	More weight at the tail is undesirable if CG is too far aft to begin with	Weight is added closer (however ahead of) desired CG	Higher drag
No additional servo to control tailwheel			Additional servo needed to control nose wheel with current setup
More robust for hard landings			Nose wheel may break on hard landings/if UAS is landed nose wheel first
Will not interfere with			May interfere with

electronics sled			electronics sled (is in the area of the electronics)
Easier to Hand launch			Main gear may be in the way for hand launching

Other Options/Modifications

Tricycle (Nose wheel) Landing Gear - Castering (unsteerable)		**Conventional Gear without Tailwheel**	
Pros	**Cons**	**Pros**	**Cons**
Less weight: do not need extra servo to control nose wheel	Aircraft will always turn into the wind on the ground, controllability less than with as airflow over rudder provides only turning mechanism	No additional weight at the tail	Rudder/tail will drag on the ground, no real controllability on ground, most likely hand launch/launch rail only.

“Retractable” Landing gear	
Pros	**Cons**
Landing gear completely out of the way for hand launching or launch rail (Likely not a large issue however, with current launch rail design)	Likely more weight, definitely more complexity