Controlled Spawn & Waypoints Randomizr (CSWR)

Last update: v5.1

What is this:

CSWR is an *Arma 3* script that allows the Mission Editor to spawn AI units and vehicles (by ground or air paradrop) and makes those groups move randomly to waypoints forever in life, where spawn-points and waypoints are easily pre-defined by Mission Editor through Eden marker's positions. *CSWR* accepts faction loadout customization, including additional customizations for sniper teams and paratroopers. *CSWR* almost doesn't change any original Arma AI behavior, saving server performance and *Arma 3* integrity.

For multiplayer and single-player:

CSWR works for all game purposes like multiplayer and single-player.

For Hosted and Dedicated servers:

CSWR was built for both server types, mainly dedicated ones.

Populate missions with civilians only if needed:

Yes and easily. You can spawn just a faction, or two, or all of them. As you wish.

Compatible with ACE, RHS, CUP, or any others:

Yes! You can call whatever classnames of units and vehicles in *fn_CSWR_population.sqf* file.

CSWR cannot spawn air or nautical vehicles yet:

Since v5.0 CSWR is allow to spawn helicopters. Despite you can spawn soldiers and civilians in water when needed, nautical vehicles or planes aren't available yet.

Loadout customization:

Yes, including uniforms, vests, and backpacks, respecting the items inside the original ones and transferring them to the new gear. Check [how to customize the faction loadouts](#).

Debug monitor and feedback available:

Go to */CSWRandomizr/fn_CSWR_management.sqf* and change the value of the *CSWR_isOnDebugGlobal* variable.

If you need an SQF editor:

Sure, I'm using *Visual Studio Code* with this customs specific for *Arma 3*:

https://forums.bohemia.net/forums/topic/239960-vs-code-tutorial-how-to-config-vs-code-for-arma-3-2023/

If you need something simpler:

https://notepad-plus-plus.org/, install it and, when you open some script file, go to Notepad++ main menu, "Language" and select "C" as file language. That's it.

How to run the script for a first look:

1. Go to https://steamcommunity.com/sharedfiles/filedetails/?id=2740912514

2. Subscribe and wait for Steam to download it;

3. Open *Arma 3*, go to Multiplayer > Server browser > Host server > click Host Server button;

4. Select "Stratis" map and, after that, select "CONTROLLED SPAWN AND WAYPOINTS RANDOMIZR";

5. Play.

Important: if you want to apply this script in your own missions, check this out.

How to install the script in my own mission: ★★★

1. Go to:
   https://github.com/aldolammel/Arma-3-Controlled-Spawn-And-Waypoints-Randomizr-Script

2. Download the zip and open it;

3. In zip, find the folder "CSWRandomizr" and copy it to your mission folder root:
   DRIVE:\Users\yourName\Documents\Arma 3\yourProfile\missions\yourMission\

4. In the mission folder root, if you don't have a "description.ext" file, create one and there add the code down below:

```
class cfgFunctions
{
        // CONTROLLED SPAWN AND WAYPOINTS RANDOMIZR
        #include "CSWRandomizr\THY_CSWR_functions.hpp"
};
```

5. Now, just create your custom faction(s)!

Define the factions to spawn:

In *Arma 3*, there are 4 factions available: Blufor, Opfor, Independent, and Civilian. All of them are built by groups that are composed of units (soldiers/people). With *CSWR* you will spawn dynamically one or more factions. It's up to you. Let's do it, opening the file: *\CSWRandomizr\fn_CSWR_management.sqf*

Set as *true* the faction you want to spawn through *CSWR*:

```
fn_CSWR_management.sqf ×
 1    // CSWR v4.0
 2    // File: your_mission\CSWRandomizr\fn_CSWR_management.sqf
 3    // by thy (@aldolammel)
 4
 5    if (!isServer) exitWith {};
 6
 7    // PARAMETERS OF EDITOR'S OPTIONS:
 8    // Debug:
 9        CSWR_isOnDebugGlobal = true;      // true = shows basic debu
10        CSWR_isOnDebugOccupy = false;     // true = if debug global
11        CSWR_isOnDebugWatch = false;      // true = if debug global
12        CSWR_isOnDebugHold = true;        // true = if debug global tr
13    // Factions:
14        CSWR_isOnBLU = true;              // true = if you wanna spawn BluFo
15        CSWR_isOnOPF = true;              // true = if you wanna spawn OpFor/
16        CSWR_isOnIND = true;              // true = if you wanna spawn Indepe
17        CSWR_isOnCIV = true;              // true = if you wanna spawn Civili
18    // Others:
19        CSWR_isBackpackForAll = false;    // true = if editor sets
20        CSWR_isVestForAll = false;        // true = if editor sets
21        CSWR_isHoldVehLightsOff = false;  // true = all vehicles
22        CSWR_isUnlimitedFuel = false;     // WIP
23        CSWR_isUnlimitedAmmo = false;     // WIP
24        CSWR_isEditableByZeus = true;     // true = CSWR units and
25        CSWR_wait = 1;                    // If you need to make CS
26
```

How to define who is the enemy:

CSWR works with what you have defined through Eden Editor:

1. On Eden main menu, go to Attributes > General;
2. In the "General" window, look for "Misc":

3. As BluFor and OpFor always are enemies of each other, you only need to define who is the Independent enemy, by clicking over the side flag.

Spawn-points of each enabled faction:

In *CSWR*, the AI will got also some pre-defined markers as spawn-points <u>which they will use only one type of spawn</u> in two ways: 1) right before the mission gets started; or 2) using the [Spawn Delay methods](). The regular spawn can take a while like 1 or 2 minutes to be fully finished, depending on how many units and vehicles *CSWR* will create for you. Each faction should have its own spawn-points, never sharing them with another faction. If you apply more than one spawn-point of the same type, each group/vehicle assigned to spawn there will select one of those options randomly.

Define the spawn-points on *Eden Editor*, dropping a "Select" marker on the map and name it based on the example down below, respecting the tag of what faction(s) you got enabled in *fn_CSWR_management.sqf* previeously:
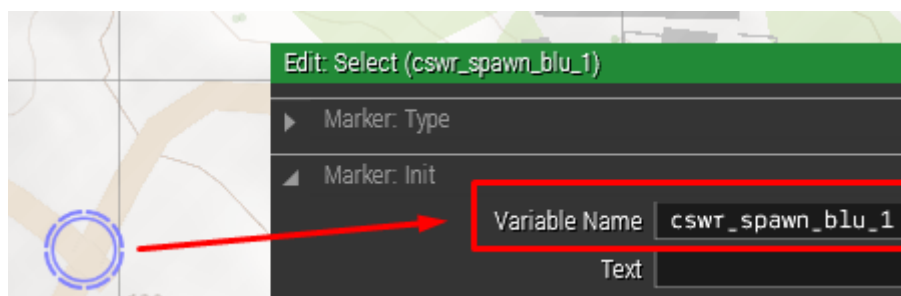
An example of spawn-point for BLU faction. This is the marker attributes on Eden Editor.

To find out the "Select" marker on Eden, in the Assets menu, click on "Markers" (F6) and, after that, "System" on the category list. There, you will find out "Select" marker.

Faction:	Spawn-type description:	On Eden Editor **Markers for spawn-types:**
BluFor	Spawn for all BLU: soldiers and vehicles can spawn.	cswr_**spawn**_blu_1 cswr_**spawn**_blu_2 …
	Spawn for BLU vehicles: <u>only</u> vehicles can spawn.	cswr_**spawnveh**_blu_1 cswr_**spawnveh**_blu_2 …
	Spawn Paradrop (air) for all BLU: soldiers and vehicles can spawn.	cswr_**spawnparadrop**_blu_1 cswr_**spawnparadrop**_blu_2 …

OpFor	Spawn for all OPF: soldiers and vehicles can spawn.	cswr_**spawn**_opf_1 cswr_**spawn**_opf_2 …
	Spawn for OPF vehicles: only vehicles can spawn.	cswr_**spawnveh**_opf_1 cswr_**spawnveh**_opf_2 …
	Spawn Paradrop (air) for all OPF: soldiers and vehicles can spawn.	cswr_**spawnparadrop**_opf_1 cswr_**spawnparadrop**_opf_2 …
Independent	Spawn for all IND: soldiers and vehicles can spawn.	cswr_**spawn**_ind_1 cswr_**spawn**_ind_2 …
	Spawn for IND vehicles: only vehicles can spawn.	cswr_**spawnveh**_ind_1 cswr_**spawnveh**_ind_2 …
	Spawn Paradrop (air) for all IND: soldiers and vehicles can spawn.	cswr_**spawnparadrop**_ind_1 cswr_**spawnparadrop**_ind_2 …
Civilian	Spawn for all CIV: People and vehicles can spawn.	cswr_**spawn**_civ_1 cswr_**spawn**_civ_2 …
	Spawn for CIV vehicles: only vehicles can spawn.	cswr_**spawnveh**_civ_1 cswr_**spawnveh**_civ_2 …
	Spawn Paradrop NOT available.	-

Of course, you might add or remove spawn-points as much as you want since you don't forget to make sure the faction is "TRUE" on *fn_CSWR_management*.sqf file:

Since v5, if you want to change the altitude of spawn by paradrop:

Spawn Delay methods:

If you want to make the groups and/or vehicles of one or more factions spawn lately in the mission, you can use 3 spawn delay methods to trigger those late spawns.

In *fn_CSWR_population.sqf* file, through the *Spawning groups' section*, the last array "[ ]" of each group or vehicle is responsible for setting which method (or methods) the group will execute in the game.

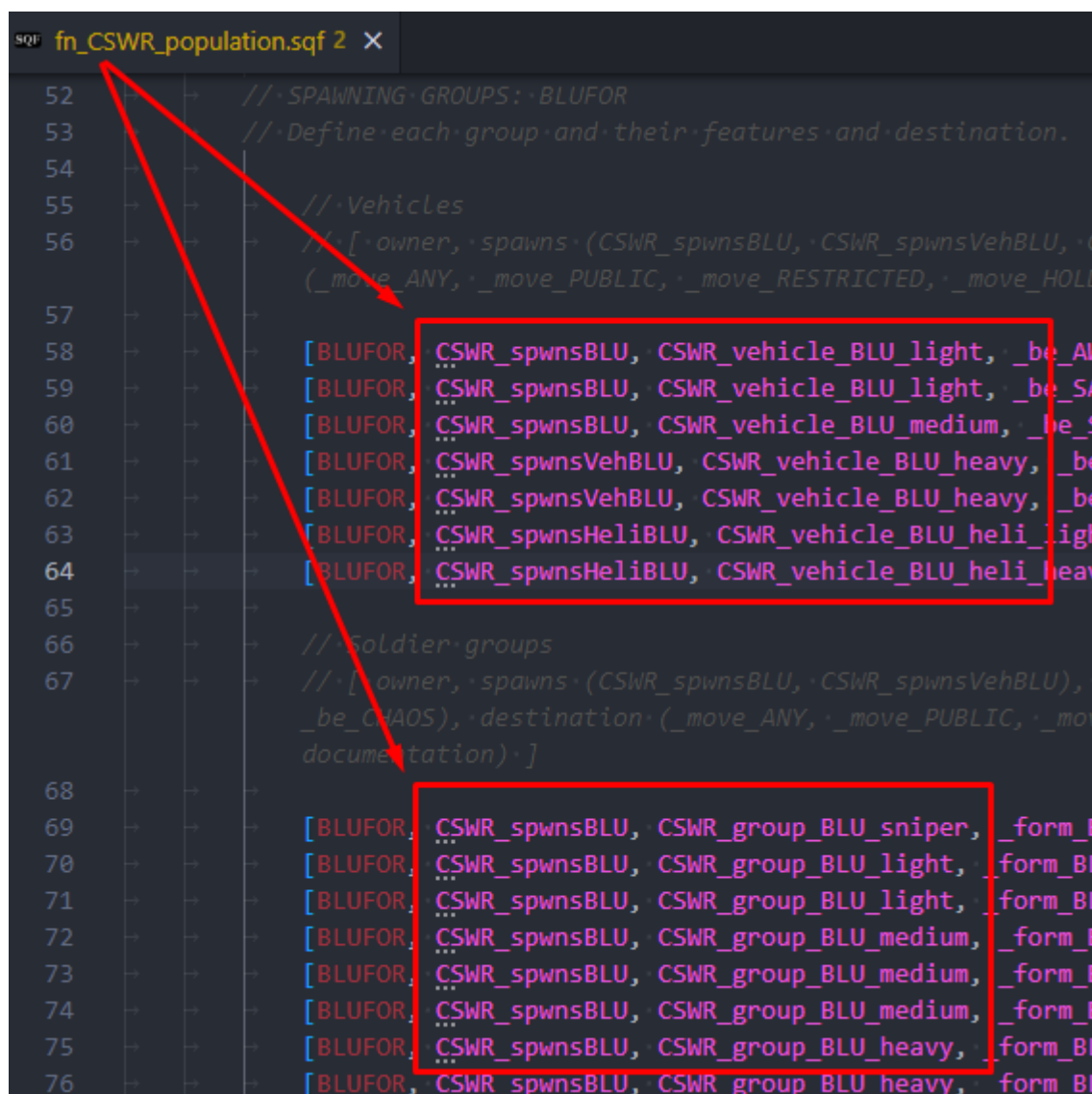| Method:	Description:	In Population file **Spawn Delay Config:**
Timer	Define a unique integer or float number (in seconds) that represents the time for the group to execute its spawn later in the mission.	[600]
Trigger	Define one or more triggers on Eden Editor that, when activated, allow the group to execute its spawn later in the mission.	[my_trigger_1] Or [my_trigger_1, my_trigger_2]
Target	Define one or more objects (soldiers/people/building) on Eden Editor that, when killed or destroyed, allowed the group to execute its spawn later in the mission.	[target_1] Or [target_1, target_2, target_3]
Timer + Trigger	Mix of methods. The first one reached allows the spawn immediately.	[600, my_trigger_1] Or [3600, my_trigger_1, my_trigger_2]
Timer + Target	Mix of methods. The first one reached allows the spawn immediately.	[60, target_1] Or [60, target_1, target_2]
Timer + Trigger + Target	Mix of methods. The first one reached allows the spawn immediately.	[60, my_trigger_1, target_1] Or [60, my_trigger_1, target_1, target_2]
Trigger + Target	Mix of methods. The first one reached allows the spawn immediately.	[trigger_1, my_trigger_1]
No Spawn delay	Set the group/vehicle to spawn right after the mission starts. Default!	[ ]

Editing the Spawn Delay of BluFor faction in *fn_CSWR_population.sqf* file.

Important: for groups and vehicles with more than one Spawn Delay method, it's important to know that the first method reached to allow the spawn, it will ignore the other methods configured for that group, allowing the group to spawn immediately.

Which group-type is allowed in each spawn-point-type:

Initially, the first versions of *CSWR* soldiers and vehicles spawned at the same spawn-points. Over time, *CSWR* has incorporated specific spawn-points for vehicles to expand the possibilities for mission editors if the editor desires a starting point from which only ground vehicles will depart. As of version 5.0, *CSWR* also has exclusive spawn-points for helicopters. With so many options, it was necessary to include some rules about which groups-types (units or vehicles) can take advantage of which types of spawn-points.

Editing the Spawn type of BLU faction in *fn_CSWR_population.sqf* file.

Down below, you got all possibilities to spawn each type of group for each Arma 3 faction:

Group type:	Debug Alias:	In Population file **Allowed to spawn here:** XXX = Faction tag
CSWR_group_BLU_light CSWR_group_OPF_light CSWR_group_IND_light CSWR_group_CIV_lone	teamL	
CSWR_group_BLU_medium CSWR_group_OPF_medium CSWR_group_IND_medium CSWR_group_CIV_couple	teamM	
CSWR_group_BLU_heavy CSWR_group_OPF_heavy CSWR_group_IND_heavy CSWR_group_CIV_gang	teamH	● CSWR_**spwns**XXX ● CSWR_**spwnsParadrop**XXX Groups of people are allowed to spawn in on the ground, and dropped by air.
CSWR_group_BLU_custom_1 CSWR_group_BLU_custom_2 CSWR_group_BLU_custom_3 CSWR_group_OPF_custom_1 CSWR_group_OPF_custom_2 CSWR_group_OPF_custom_3 CSWR_group_IND_custom_1 CSWR_group_IND_custom_2 CSWR_group_IND_custom_3 CSWR_group_CIV_custom_1 CSWR_group_CIV_custom_2 CSWR_group_CIV_custom_3	teamC1 teamC2 teamC3	
CSWR_group_BLU_sniper CSWR_group_OPF_sniper CSWR_group_IND_sniper ~~CSWR_group_CIV_sniper~~	teamS	
CSWR_**vehicle**_BLU_light CSWR_**vehicle**_OPF_light CSWR_**vehicle**_IND_light CSWR_**vehicle**_CIV_light	vehL	● CSWR_**spwns**XXX ● CSWR_**spwnsVeh**XXX ● CSWR_**spwnsParadrop**XXX Vehicles (with their crew) are allowed to spawn in infantry spawns, in spawns exclusive for vehicles, and dropped by air*.
CSWR_**vehicle**_BLU_medium CSWR_**vehicle**_OPF_medium CSWR_**vehicle**_IND_medium CSWR_**vehicle**_CIV_medium	vehM	
CSWR_**vehicle**_BLU_heavy CSWR_**vehicle**_OPF_heavy	vehH	(*) CIV vehicles CANNOT be spawned by air.

CSWR_**vehicle**_IND_heavy CSWR_**vehicle**_CIV_heavy		
CSWR_**vehicle**_BLU_custom_1 CSWR_**vehicle**_BLU_custom_2 CSWR_**vehicle**_BLU_custom_3 CSWR_**vehicle**_OPF_custom_1 CSWR_**vehicle**_OPF_custom_2 CSWR_**vehicle**_OPF_custom_3 CSWR_**vehicle**_IND_custom_1 CSWR_**vehicle**_IND_custom_2 CSWR_**vehicle**_IND_custom_3 CSWR_**vehicle**_CIV_custom_1 CSWR_**vehicle**_CIV_custom_2 CSWR_**vehicle**_CIV_custom_3	vehC1 vehC2 vehC3	
CSWR_vehicle_BLU_**heli**_light CSWR_vehicle_OPF_**heli**_light CSWR_vehicle_IND_**heli**_light CSWR_vehicle_CIV_**heli**_light	heliL	● CSWR_**spwnsHeli**XXX Helicopters (with their crew) are allowed to spawn <u>only</u> in exclusive helicopter spawns.
CSWR_vehicle_BLU_**heli**_heavy CSWR_vehicle_OPF_**heli**_heavy CSWR_vehicle_IND_**heli**_heavy CSWR_vehicle_CIV_**heli**_heavy	heliH	

Set the faction destinations (waypoints):

In *CSWR*, almost there's no end-point, which means after the group spawns, it will move through the map directly to the pre-defined destinations (waypoints), randomly, and can take a break just a while before <u>to go to the next same destination type</u>.
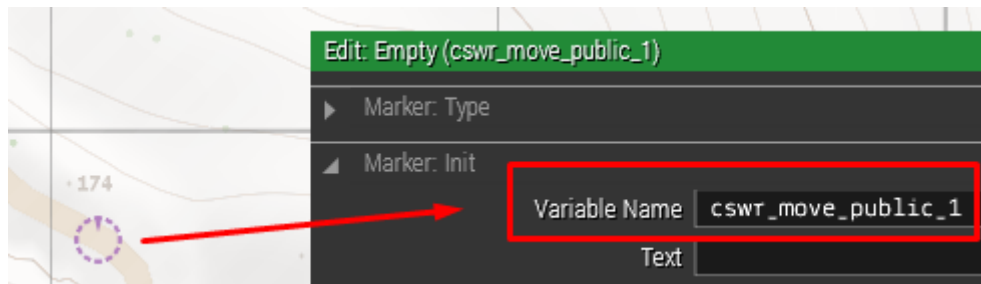
An example of destination marker and how *CSWR* recognizes that on Eden Editor.

Each faction's group configured to spawn can have (or not) a different destination. All types of groups/vehicles (except sniper teams) will move forever from one marker to the other until the mission is over or the group has been eliminated.

Below, there are all kinds of destinations available for you name it on *Eden Editor* markers:

On Eden Editor **Markers name:**	**Description:**
Move markers	Move destinations are the simplest marker used in *CSWR*. A group of soldiers or a lone vehicle using it, after spawning, will go to one of them randomly, spend a while and move on to the next move marker.
cswr_**move**_public_1 cswr_**move**_public_2 …	Move destination used by everyone assigned to use that, including civilian faction.
cswr_**move**_blu_1 cswr_**move**_blu_2 …	Move destination used by Blufor groups assigned to use that.
cswr_**move**_opf_1 cswr_**move**_opf_2 …	Move destination used by Opfor groups assigned to use that.
cswr_**move**_ind_1 cswr_**move**_ind_2 …	Move destination used by Independent groups assigned to use that.

cswr_**move**_civ_1 cswr_**move**_civ_2 …	Move destination used by Civilian groups assigned to use that.
Hold markers	Hold destinations are markers with the goal to hold the position of groups of soldiers. Hold-marker can also be used by one tracked vehicle (tank, IFV) that after the spawn the vehicle will go there and hold position <u>almost exactly</u> over the marker position and heading for the marker direction. Soldiers using hold destinations always will avoid being over the roads/streets and never in the hold-marker center position (reserved for tracked vehicles). After spawning, the hold-groups will go to one of them randomly, spend a long time there and then move on to the next hold marker. It's advised to don't use hold-markers over the roads/streets to avoid vehicle crashes.
cswr_**hold**_blu_1 cswr_**hold**_blu_2 …	Hold destination used by Blufor groups assigned to use that.
cswr_**hold**_opf_1 cswr_**hold**_opf_2 …	Hold destination used by Opfor groups assigned to use that.
cswr_**hold**_ind_1 cswr_**hold**_ind_2 …	Hold destination used by Independent groups assigned to use that.
cswr_**hold**_civ_1 cswr_**hold**_civ_2 …	Hold destination used by Civilian groups assigned to use that.
Watch markers	Watch destinations are markers designed exclusively for soldiers (not vehicles) of <u>sniper teams with one or two units at maximum</u>. Once the spawning runs, the sniper team assigned with a Watch-destination will go around the marker, looking for high spots with some vision of the marker position. After the team's arrival, the snipers will stay there (never changing the location) until the mission ends or they are dead.
cswr_**watch**_blu_1 cswr_**watch**_blu_2 …	Watch destination used by Blufor groups assigned to use that. Vehicle is not possible.
cswr_**watch**_opf_1 cswr_**watch**_opf_2 …	Watch destination used by Opfor groups assigned to use that. Vehicle is not possible.
cswr_**watch**_ind_1 cswr_**watch**_ind_2 …	Watch destination used by Independent groups assigned to use that. Vehicle is not possible.

~~cswr_watch_civ_1~~	Civilians cannot use watch-markers.
Occupy markers	Occupy destinations are markers where a group of soldiers (<u>at maximum of six units</u>) will get inside one of all available buildings inside a range (of 200m by default) from the marker center. Once inside the building, the group will stay there for a long time, and if there's an enemy around, the group will fight from inside and not leave their covered position.
cswr_**occupy_**blu_1 cswr_**occupy_**blu_2 …	Occupy destination used by Blufor groups assigned to use that. Vehicle is not possible.
cswr_**occupy_**opf_1 cswr_**occupy_**opf_2 …	Occupy destination used by Opfor groups assigned to use that. Vehicle is not possible.
cswr_**occupy_**ind_1 cswr_**occupy_**ind_2 …	Occupy destination used by Independent groups assigned to use that. Vehicle is not possible.
cswr_**occupy_**civ_1 cswr_**occupy_**civ_2 …	Occupy destination used by Civilian groups assigned to use that. Vehicle is not possible.

1 / 2 - Including the destinations on *Eden Editor*:

On *Eden Editor*, drop an "Empty" marker on the map, rename it with one of those examples from the table above, and with *Copy & Paste*, add how many markers (destinations of that type) your mission asks because the numeral of the markers name will increase automatically:
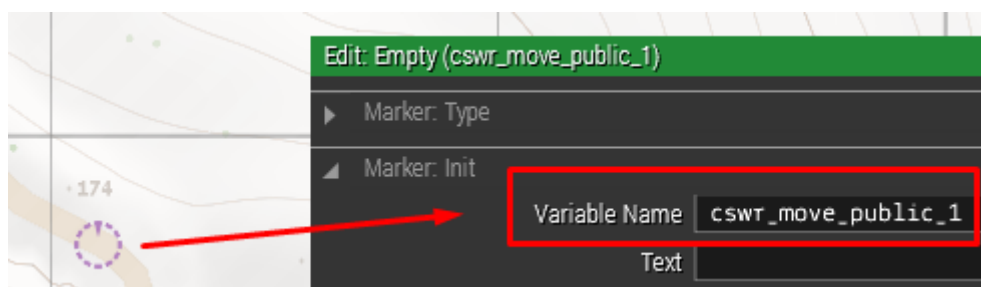
An example of destine marker and its attributes on Eden Editor.

To find in Eden Editor "Empty" marker, in the Assets menu, click on "Markers" (F6) and, after that, "System" on the category list. There, you will find out "Empty" marker.

Drag and drop the marker where you want troops and vehicles going through. Soon you will understand each section of the marker's name structure.

A tip for you: use the Entities menu to organize what markers are spawn and what of them are destinations:
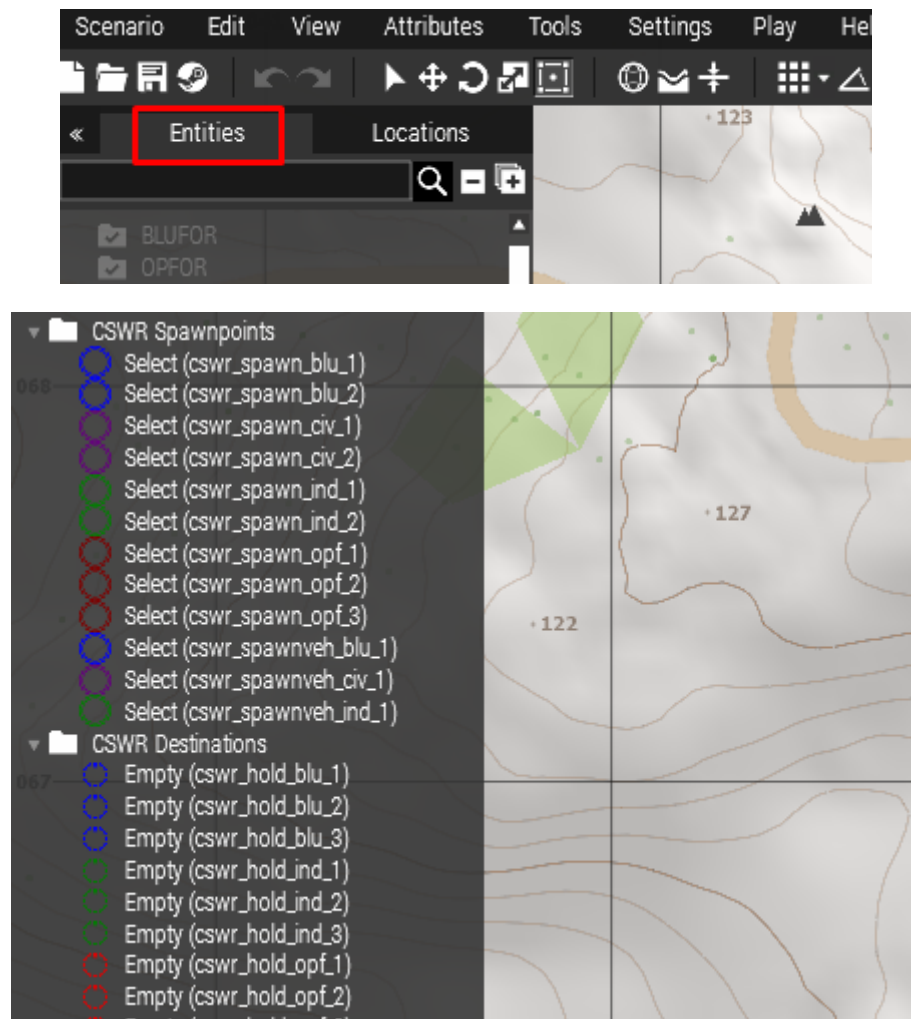
2 / 2 - Define where each spawned group will move:

Open the file: *fn_CSWR_population.sqf*
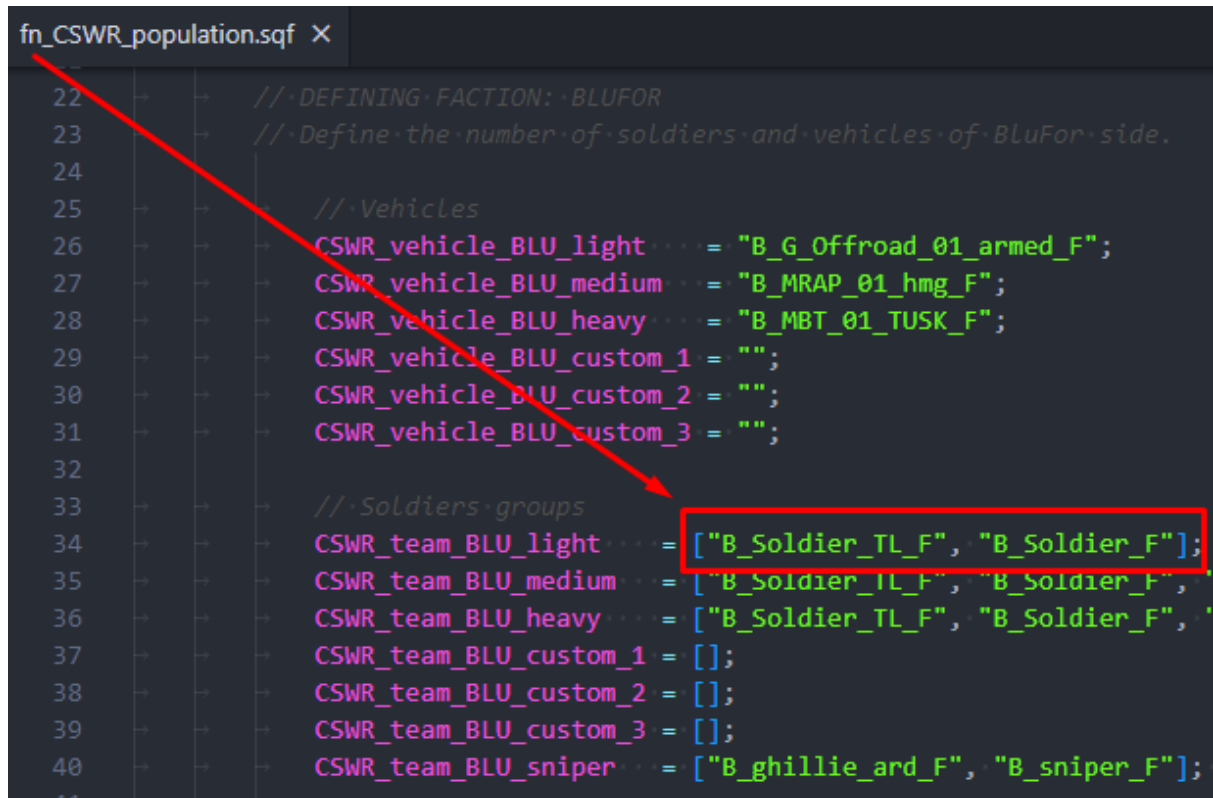
```
fn_CSWR_population.sqf  ×
61
62              // Soldier groups
63              // [ owner, spawns (CSWR_spwnsBLU, CSWR spwnsVehBLU), team type, team formation (_form_
                _move_PUBLIC, _move_RESTRICTED, _move_OCCUPY, _move_WATCH, _move_HOLD) ]
64
65      [BLUFOR, CSWR_spwnsBLU, CSWR_team_BLU_sniper, _form_BLU_1, _be_COMBAT, _move_WATCH] cal
66      [BLUFOR, CSWR_spwnsBLU, CSWR_team_BLU_light, _form_BLU_2, _be_COMBAT, _move_OCCUPY] cal
67      [BLUFOR, CSWR_spwnsBLU, CSWR_team_BLU_medium, _form_BLU_2, _be_COMBAT, _move_OCCUPY] ca
68      [BLUFOR, CSWR_spwnsBLU, CSWR_team_BLU_medium, _form_BLU_1, _be_COMBAT, _move_HOLD] call
69      [BLUFOR, CSWR_spwnsBLU, CSWR_team_BLU_light, _form_BLU_1, _be_COMBAT, _move_HOLD] call
70      [BLUFOR, CSWR_spwnsBLU, CSWR_team_BLU_light, _form_BLU_1, _be_COMBAT, _move_ANY] call T
71      [BLUFOR, CSWR_spwnsBLU, CSWR_team_BLU_light, _form_BLU_1, _be_SAFE, _move_ANY] call THY_
72      [BLUFOR, CSWR_spwnsBLU, CSWR_team_BLU_light, _form_BLU_1, _be_SAFE, _move_ANY] call THY_
```
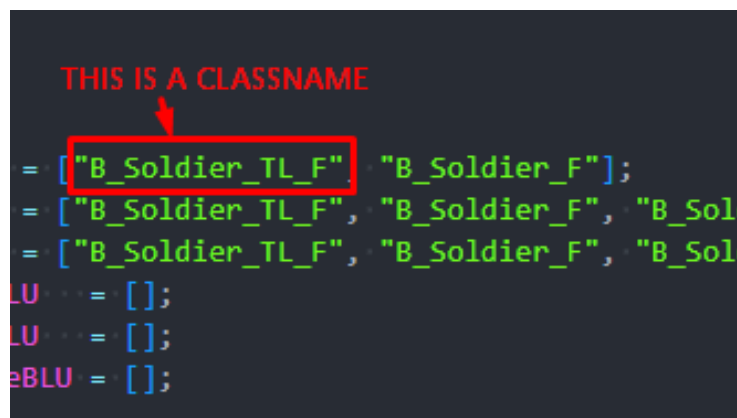
On image above, each line is a Blufor group of soldiers. In the last column, you define with type of destinations that group must be assigned. Down below, the options:

In Population file **Destination types:**	**Description:**
_move_ANY	Group goes to any destination marker. (Highly recommended to be used by armed factions)
_move_PUBLIC	Group goes to where anyone can go. (Highly recommended to be used for civilian faction)
_move_RESTRICTED	Group goes only for Move destinations of their faction.
_move_OCCUPY	Group goes only for Occupy destinations of their faction. Cannot be used with vehicle.
_move_WATCH	Group goes only for one Watch destination of their faction. Cannot be used with vehicle, nor CIV people.
_move_HOLD	Group goes only for Hold destinations of their faction.

Can the groups move free, with no destinations/waypoints?
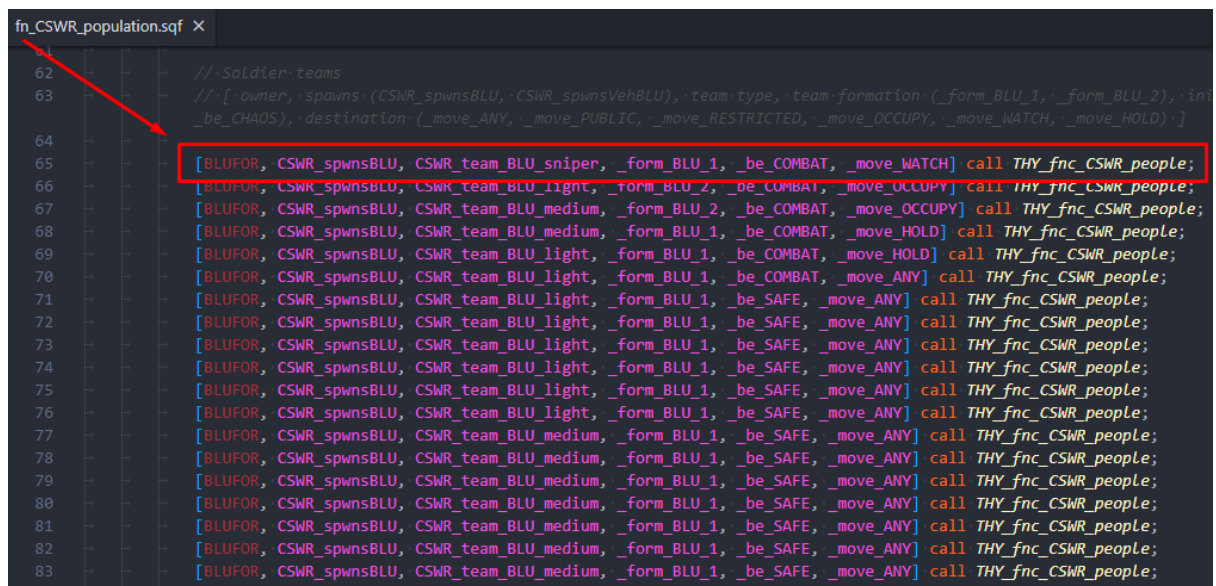
No. In CSWR, the idea is the Editor has total control of the areas where the troops should move through or occupy or watch.

Define the factions sizes:

Now, let's request *CSWR* to spawn the [faction teams already configured](). In the *fn_CSWR_population.sqf* file, search the section "SPAWNING GROUPS: BLUFOR", for example:
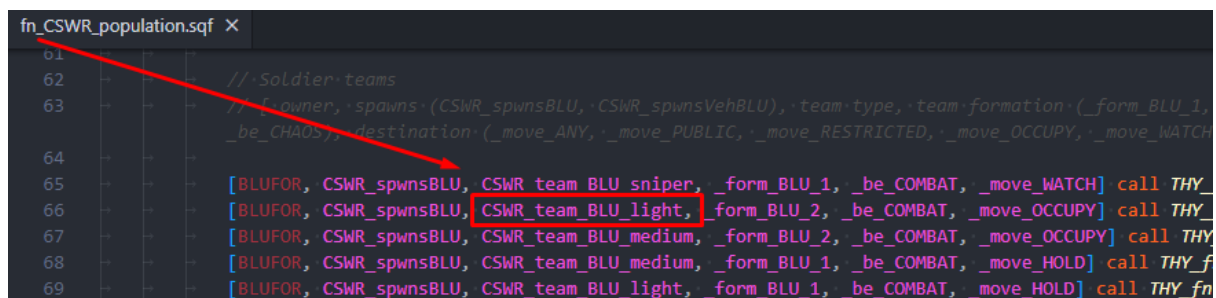
1) Add or remove group's lines:

Each line represents a team/group that you wanna spawn right after the match starts. You will see the vehicle groups separated from the soldier's groups.

Change (or not) the team type in each line:

2) Increase or decrease the size of each team type:

Team of soldiers supports many types of soldiers in a single team, but is adviced follow more or less the same number of soldiers already configured. Feel free to customize the type of soldier you want to each team "template". Those green names

are "classnames" and they are unique. Each type of soldier of each faction has its own classname.
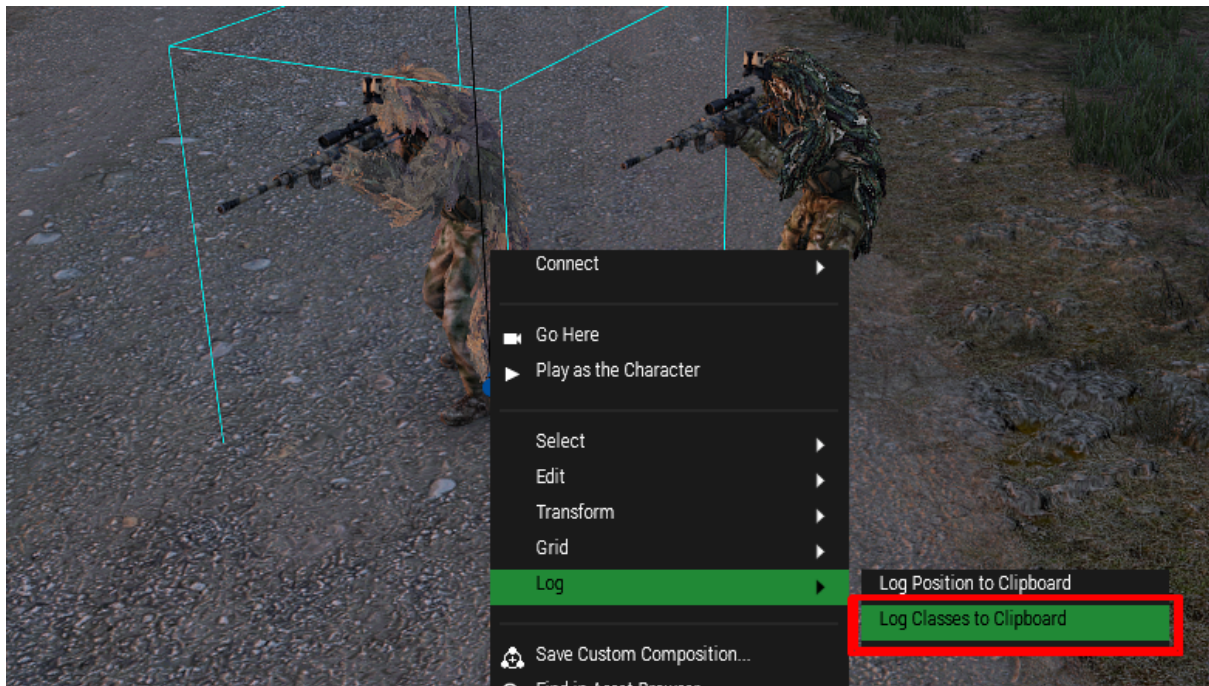

On Eden Editor, here is how you figure out what soldier classename or vehicle classname you want to, where the easiest way to copy the classname is right-clicking over the unit/vehicle and going to "Log", and "Log Classes". Done. Just Ctrl+V where you need

Also, you figure it out putting the mouse arrow over the unit/vehicle on Assets menu:
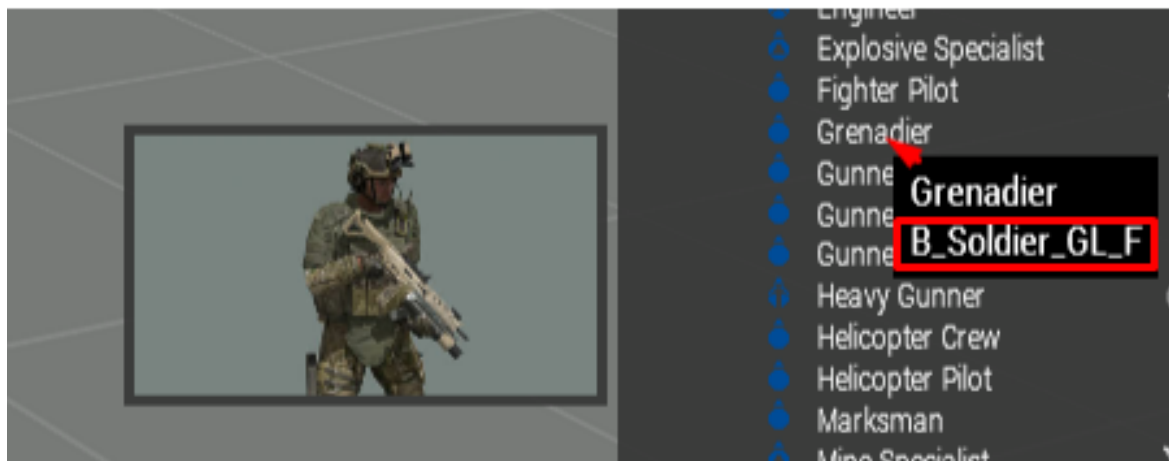
Important 1: you can use whatever loaded mod's units by the server. For example, if you wanna use *RHS* or *CUP* units in blufor, add the unit's classnames in the *fn_CSWR_population.sqf* file.

Important 2: Despite the vehicle's types being right below the title "Defining Groups", use only one vehicle's classname by vehicle type listed. Arma 3 doesn't work well with groups of vehicles, then *CSWR* has a code limiter that accepts just one vehicle per type.

Important 3: Never set a vehicle classname in a group of soldiers. *CSWR* is coded to ignore this kind of mistake.
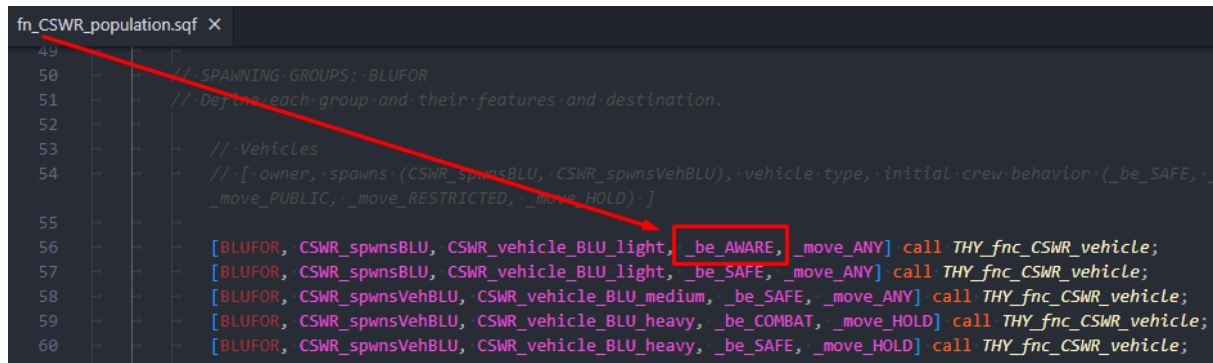
```
// Soldiers groups
CSWR_team_BLU_light   = ["B_Soldier_TL_F", "B_Soldier_F", "B_G_Offroad_01_armed_F"];
```

Arma 3 doesn't work well when a single group is composed by infantry and vehicles together.

Custom behavior for each group:

CSWR allows the Mission Editor to define the behavior of each group/vehicle spawned through *fn_CSWR_population.sqf* file.

For example, go to "SPAWNING GROUPS: BLUFOR" section and check it out:

Above, each line represents a Blufor group that will spawn, and each group has its personality configured for all game long. Below are the options you might use for one or more groups, up to you:

In Population file **Behavior types:**	**Description:**
_be_SAFE	Group walking with the guns low, looking around, and feeling safe. Vehicle rolling slow and on roads. If tank, the crew out into the hatch.
_be_AWARE	Group walking but with guns ready, looking around and concerned. Vehicle slow and on road, but concerned with the crew inside when tank.
_be_COMBAT	Group running, ready to fight and keep the formation. Vehicle running, ready to fight, leaving the roads.
_be_STEALTH	Group in combat mode, but much more in a cautious manner, moving always along the cover. Vehicle is in combat mode, turning the light off. If tank, it'll avoid knocking down trees.
_be_CHAOS	Group full speed, ready to fight and lose the formation. Vehicle full speed, rides everywhere, losing the formation.

How to customize the loadouts:

You can easily customize each faction loadout, setting some specific stuff for infantry, crewmen, snipers, and paratroopers.

Open the file: *fn_CSWR_loadout.sqf*

Keep in mind you are able to customize uniforms, vests, and backpacks and their contents.
Weaponry is a little more complicated, but we'll get to that in a moment.

For example, you can remove all Night Vision Goggles or GPS devices from each *CSWR* spawned Blufor unit only, if you want. Or just exchange the standard vest from all Opfor units, without losing all items inside the original vest. With *CSWR* you're allowed to customize all unit loadouts, even those ones spawned dynamically through the *CSWR* script.

Crítical: about the weaponry, keep in mind if you change the primary weapon, for example, you will remove specialized weapons from specific soldier classes such as machine-gunners, marksmen, and crewmen, adding the same gun for everyone in the faction. If you want to use a specific weapon family for your custom army, try to use the classname's soldiers of the Arma 3

or mod armies that already use those weapons, and then customize their uniform, vest, and stuff.

Use loadout editing wisely, remembering that anything you add or remove will impact ALL units in that faction. Then open the *fn_CSWR_loadout.sqf* file and let's customize your army. Below, follow the logical steps for loadout customization for each enabled faction in-game:

1) Removing and unlinking items:

Here you will remove (and sometimes unlink and, after that, remove) items unnecessary for units in your mission.

```
// Exclusively for things to unlink and remove:
    _unit unlinkItem "NVGoggles";     // unlink the night vision
    _unit removeItem "NVGoggles";     // remove the night vision
    //_unit removeItems "FirstAidKit";     // it removes all (rem
    _unit unlinkItem "ItemWatch";
    _unit removeItem "ItemWatch";
    _unit unlinkItem "ItemCompass";
    _unit removeItem "ItemCompass";
    _unit unlinkItem "ItemRadio";
    _unit removeItem "ItemRadio";
    _unit unlinkItem "ItemGPS";
    _unit removeItem "ItemGPS";
    _unit unlinkItem "ItemMap";
    _unit removeItem "ItemMap";
    _unit removeItem "16Rnd_9x21_Mag";
    _unit removeItem "16Rnd_9x21_Mag";
    _unit removeWeapon "Binocular";
    _unit removeWeapon "hgun_P07_F";
```

For Arma 3, "Binocular" is a weapon and not an item, so be careful with the commands to remove things. Always test your customs, mainly when you're removing and adding things in unit inventories.

2) Customizing the helmet:

The mission editor can set two different helmets for each faction. One for infantry soldiers (first green classname below), and another for armored vehicles' crewmen (second green classname).

```
// Exclusively for Helmet replacement [_unit, regular helmet classname, heavy crew helmet cla
   [_unit, "H_Booniehat_tan", "H_HelmetSpecB_sand"] call THY_fnc_CSWR_helmetReplacement;  //
```

If you don't want to change the original helmet of the faction, just let those two green classnames as "" (empty). To set all infantry soldiers and crewmen with NO helmet, just set them as "REMOVED" for each one of the classnames.

3) Customizing the uniform, the vest, and the backpack:

In *Arma 3*, the uniform, vest, and backpack are items' containers for each soldier. If you set an item for a unit, if you check their inventory in-game, there will be the item, maybe inside the uniform, backpack, or vest. If the unit has no uniform, vest, or backpack, the unit won't be able to store the item. When you set a new vest for a faction, *CSWR* will scan all items inside the current vest, save them, change the vest to the new one, and, finally, transfer all original items to the new vest. The same happens when the uniform and backpack are replaced, for example, preserving the original unit weapons' magazines.

```
// Exclusively for Uniform replacement [_unit, uniform classname]:
   [_unit, "U_B_CTRG_3"] call THY_fnc_CSWR_uniformRepacker;  // ad
```

```
// Exclusively for Vest replacement [_unit, vest classname]:
   [_unit, "V_PlateCarrierL_CTRG"] call THY_fnc_CSWR_vestRepacker;
```

```
// Exclusively for Backpack replacement [_unit, backpack classname]:
   [_unit, "B_Kitbag_tan"] call THY_fnc_CSWR_backpackRepacker;  //
```

If you don't want to change the original containers of the faction, just let those green classnames as "" (empty). To set all units with NO backpack, or NO vest, or (for some reason), NO uniform, just set them as "REMOVED" for each one of the containers' classnames.

Important: Notice that not every soldier has a backpack or vest. *CSWR* will respect that logic but if you want to force to set every unit to get a backpack and/or a vest, you can do it through the file *fn_CSWR_management.sqf*, setting as true the options:

```
fn_CSWR_management.sqf ×

  1   // CSWR v4.0
  2   // File: your_mission\CSWRandomizr\fn_CSWR_management.sqf
  3   // by thy (@aldoLammel)
  4
  5   if (!isServer) exitWith {};
  6
  7   // PARAMETERS OF EDITOR'S OPTIONS:
  8   // Debug:
  9       CSWR_isOnDebugGlobal = true;      // true = shows basic d
 10       CSWR_isOnDebugOccupy = false;     // true = if debug glo
 11       CSWR_isOnDebugWatch = false;      // true = if debug glob
 12       CSWR_isOnDebugHold = false;       // true = if debug globa
 13   // Factions:
 14       CSWR_isOnBLU = true;      // true = if you wanna spawn Bl
 15       CSWR_isOnOPF = true;      // true = if you wanna spawn OpF
 16       CSWR_isOnIND = true;      // true = if you wanna spawn Ind
 17       CSWR_isOnCIV = true;      // true = if you wanna spawn Civ
 18   // Others:
 19       CSWR_isBackpackForAll = false;    // true = if editor se
 20       CSWR_isVestForAll = false;        // true = if editor se
 21       CSWR_isHoldVehLightsOff = false;  // true = all vehicle
 22       CSWR_isUnlimitedFuel = false;     // WIP
 23       CSWR_isUnlimitedAmmo = false;     // WIP
 24       CSWR_isEditableByZeus = true;     // true = CSWR units a
 25       CSWR_wait = 1;                    // If you need to make
```

The option *CSWR_isBackpackForAll* when "true" sets the pre-defined new backpack for all units of the chosen faction, except for parachuters (including crewmen spawned by vehicle paradrop).

4) Customize your sniper teams, including their main rifle:

Snipers teams might be customized separately. As the image down below, you can change the sniper team's uniform, vest, rifle, its magazine type, optics, supressor, binoculars, and rifles attachments.
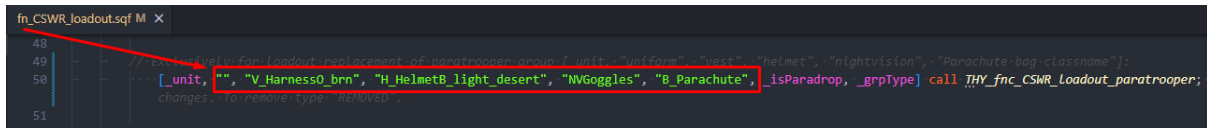
```
fn_CSWR_loadout.sqf ×

 39    // Exclusively for Uniform replacement of sniper team [_type, _unit, "uniform", "vest", "rifle", "rifle magazine", "rifle sight/optics", "rifle rail",
       "pod", binoculars ]:
 40    [_type, _unit, "U_B_T_FullGhillie_tna_F", "", "srifle_EBR_F", "20Rnd_762x51_Mag", "optic_DMS", "acc_pointer_IR", "muzzle_snds_B", "", "Rangefinder"]
       THY_fnc_CSWR_loadout_team_sniper;
 41
```

If you don't want to change the original stuff of sniper team, just let those green classnames as "" (empty). Except rifle and binoculars, for you remove one or more weapon attachments, just set each one as "REMOVED".

5) Customize the paratrooper's loadout:

What defines if a group is a paratrooper group or a regular one is which spawn-point type they will use. Said that, like other loadout customization, you must use the *fn_CSWR_loadout.sqf* file to edit the snippet below. Paratroopers can get their own uniform and vest, including, of course, the parachute bag:
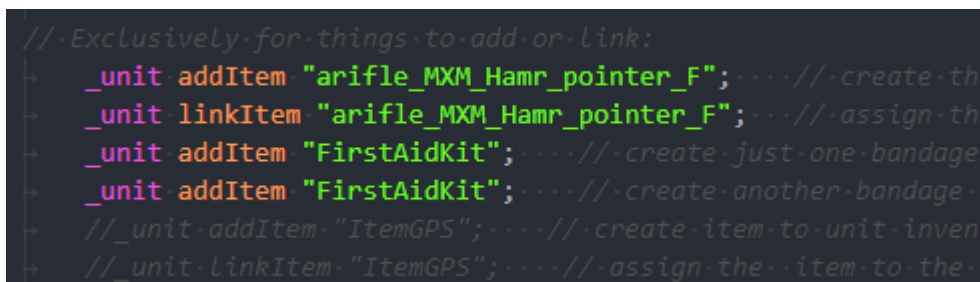

Important 1: you can customize the parachute bag for another one, but don't leave this option empty ("") or use the "REMOVED" command if your intention is not to send the paratrooper group to death immediately after their spawn.

Important 2: if the Sniper group is a paratrooper group too, they will ignore the paratrooper loadout customization, accepting only the parachute bag as a backpack in the loadout.

6) Adding and linking items:

To finish, the last section of loadout customization is the area to add things. No doubt, this is the section that I use the least in my customizations. Generally, I just remove stuff from units, but when customizing the civilian faction for example, I love to add the cellphone item to each unit just for fun. Be aware for some items like GPS that is important to "addItem" first and, right after "linkItem" too. Otherwise, if you just add the GPS, the item will be in the unit's inventory but not in use.
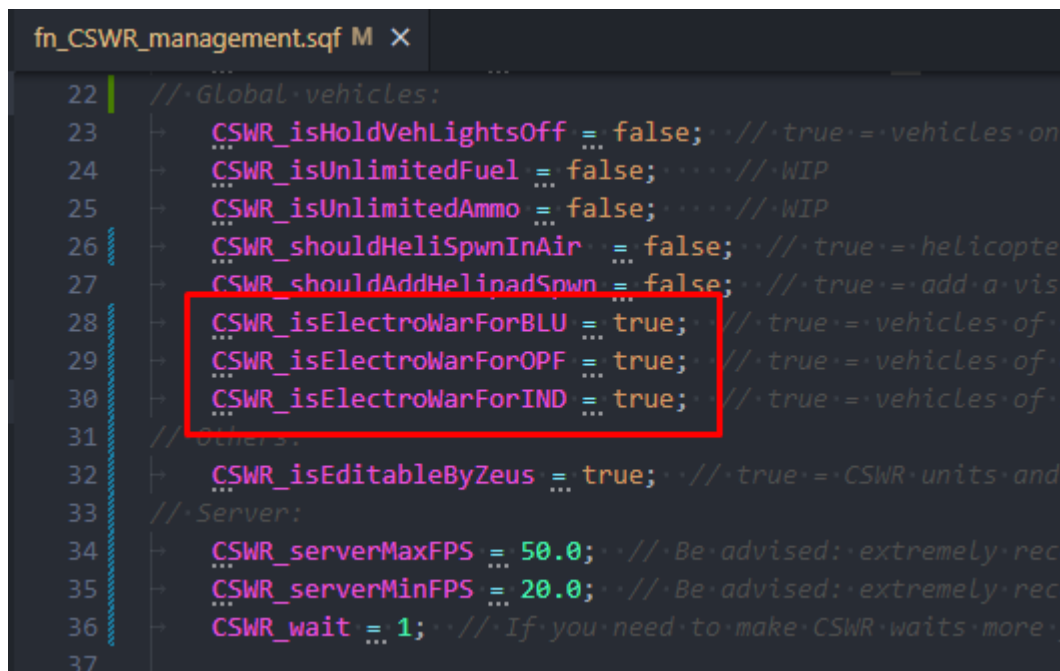
Critical: about adding lots of things, always take care not to exceed the load limit of the chosen uniform, vest, and backpack. If no more space in their inventory, items start to disappear.

Important: if something is wrong in your loadout changing tests or you want to learn how to see the original unit loadout code, check this out.

Electronic Warfare Resources:

You can turn on or off the electronic warfare resources for vehicles by each faction. For example, if you want to make BLU as Brazilian Army against a poor OPF militia, you can turn "*true*" the electronic war systems for BLU, and turn it "*false*" for OPF in *fn_CSWR_management.sqf* file:

```
fn_CSWR_management.sqf M X

22   // Global vehicles:
23       CSWR_isHoldVehLightsOff = false;   // true = vehicles on
24       CSWR_isUnlimitedFuel = false;      // WIP
25       CSWR_isUnlimitedAmmo = false;      // WIP
26       CSWR_shouldHeliSpwnInAir = false;  // true = helicopte
27       CSWR_shouldAddHelipadSpwn = false; // true = add a vis
28       CSWR_isElectroWarForBLU = true;    // true = vehicles of
29       CSWR_isElectroWarForOPF = true;    // true = vehicles of
30       CSWR_isElectroWarForIND = true;    // true = vehicles of
31   // Others:
32       CSWR_isEditableByZeus = true;      // true = CSWR units and
33   // Server:
34       CSWR_serverMaxFPS = 50.0;          // Be advised: extremely rec
35       CSWR_serverMinFPS = 20.0;          // Be advised: extremely rec
36       CSWR_wait = 1;   // If you need to make CSWR waits more
37
```

What happens when "true"?
- Faction vehicles are capable of reporting their own positions;
- Faction vehicles are capable of receiving targets;
- Faction vehicles are capable of reporting targets;

Important: for improve the game experience, all helicopters always will receive targets from their allies, even the Mission Editor turned off electronic warfare for a faction.

Fixing: vehicles blowing up at the mission start

Different from soldiers, vehicles need a big empty space on the map to spawn on the ground safe, with no collisions. So, if it happens yet, make sure the faction spawn-points are using them in clear and flat ground, for example, over a road or in an empty flat field. Unfortunately, urban streets can be a challenge to spawn of vehicles, resulting in explosions.

> Important: the more spawn-points available, the fewer accidents such as infantry being run over and vehicles colliding.

> Critical: **NEVER** set a spawn-point out of the map limits. Arma 3 no recognize positions beyond the map edges.

Fixing: trying to edit the unit's loadout

If you are facing a hard time editing your faction's loadouts, maybe you are trying to remove a thing that doesn't exist or calling weird commands. Let's investigate:

1) On Eden Editor, drag and drop on map one unit of the original faction you are trying to make changes;
2) After that, go to unit Attributes and click "Edit Loadout" > "BI Virtual Arsenal";
3) Now, just click on "Export" button;

4) Open your Notepad and CTRL+V;

5) Now, check carefully if you are editing the same items the original unit brings. Keep reading:

An item does not want to leave:

In the example below, I've tried to remove the NVG from my units but somehow I couldn't. So I checked the unit exporting their attributes and I realized that the BLUFOR unit was originally using the INDEPENDENT NVG.

Original attributes from *Blufor B_W_Soldier_AAT_F* unit:

Then the issue has been solved in *fn_CSWR_globalFunctions.sqf* file:

```
# _unit unlinkItem "NVGoggles";
_unit unlinkItem "NVGoggles_INDEP";
```

How to contribute to the CSWR script:

Discussion on Bohemia Forums:

https://forums.bohemia.net/forums/topic/237504-release-controlled-spawn-and-waypoints-randomizr/

Changelog on GitHub:

https://github.com/aldolammel/Arma-3-Controlled-Spawn-And-Waypoints-Randomizr-Script#changelog

Author

Based in Porto Alegre, Brazil

thy @aldolammel

If you want, I love coffee:

Brazil:

aldolammel@gmail.com (PIX)

Paypal:

https://www.paypal.com/donate/?business=ZMHJNZMZEWKLQ&no_recurring=1&item_name=Creating+free+content+on+the+internet+just+for+love+to+create+and+make+people+happy+through+simple+things.&currency_code=USD