

Documentation

Controlled Spawn & Waypoint Randomizr Script (CSWR)

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What is this script?

CSWR is a simple and limited script that spawns AI units once right before the mission starts and makes those units move randomly to waypoints forever in life, where spawn points and waypoints are pre-defined by Mission Editor through Eden marker's positions. CSWR is able to spawn also ground vehicles with their crewmen, and accept pretty well unit loadout customization.

Can I use it for multiplayer missions?

Yes, CSWR was mainly built for multiplayer missions such as PvP, Coop/PvE, TvT.

Can I use it on Hosted and Dedicated servers?

Yes, the script was built for both server types, mainly dedicated ones.

Can I use it for single-player missions?

Yes.

Can I spawn only civilians to populate my missions?

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

Is it compatible with ACE?

Yes.

Is it compatible with content mods like RHS or CUP?

Yes! You can call whatever classnames of units and vehicles in

`fn_CSWR_population.sqf` file.

Can I spawn through CSWR air or nautical vehicles too?

Not tested with nautical vehicles, but for sure it won't work properly if you spawn helicopters or planes through the CSWR script.

Are loadout of the spawned faction units customized?

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](#).

How to just 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\(s\)](#)!

How do I create a faction team?

In Arma 3, factions are built by groups that are composed of units (soldiers/people). In CSWR is the same logic, but we will create all of it through two main files that we will see down below, and [another one a bit more complex to custom loadout](#) if you want:

1) Defining the factions to spawn:

Path: `\Your_Mission_Folder\CSWRandomizr\fn_CSWR_spawnAndWaypoints.sqf`

At first, define which faction(s) you wanna spawn in your mission through the CSWR script:

```
// PARAMETERS OF EDITOR'S OPTIONS:

CSWR_debug = false;
CSWR_spawnBlu = true;
CSWR_spawnOp = true;
CSWR_spawnInd = false;
CSWR_spawnCiv = false;
CSWR_unlimitedFuel = false;
CSWR_unlimitedAmmo = false;
```

2) If needed, customize the faction loadout:

Path: `\Your_Mission_Folder\CSWRandomizr\fn_CSWR_loadout.sqf`

You will get instructions around [loadout customization here](#).

3) Defining the group's size and its specialties:

Path: `\Your_Mission_Folder\CSWRandomizr\fn_CSWR_population.sqf`

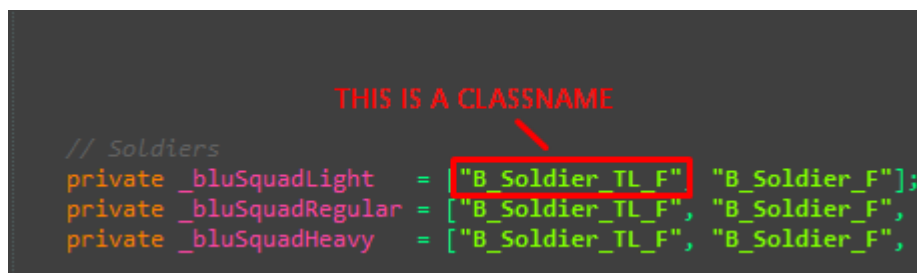
After that, the next step is to define with soldier classes and vehicles that must compose the faction:

```
// DEFINING GROUPS: BLUFOR
// Define the number of soldiers and who is who in each type of group.

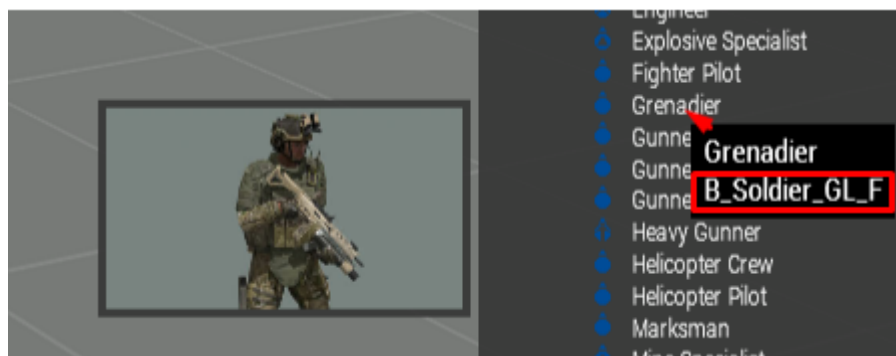
// Vehicles
private _bluVehLight = ["B_G_Offroad_01_armed_F"];
private _bluVehRegular = ["B_MRAP_01_hmg_F"];
private _bluVehHeavy = ["B_MBT_01_TUSK_F"];

// Soldiers
private _bluSquadLight = ["B_Soldier_TL_F", "B_Soldier_F"];
private _bluSquadRegular = ["B_Soldier_TL_F", "B_Soldier_F", "B_Soldier_F", "B_soldier_AR_F"];
private _bluSquadHeavy = ["B_Soldier_TL_F", "B_Soldier_F", "B_Soldier_F", "B_soldier_AR_F", "B_soldier_M_F", "B_soldier_AT_F"];
```

Use only classnames to build each group of the faction:

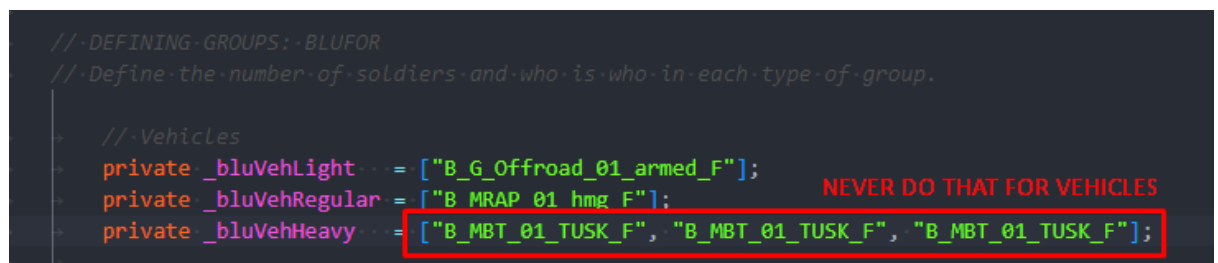


In Eden Editor, here is how you figure out what soldier classname or vehicle classname you want to, just putting your mouse arrow over the unit/vehicle:



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 over there.

Important 2: Despite the vehicle's types being right below the title "Defining Groups", use only one vehicle's classname by vehicle group 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 of vehicle group. For example, if you want to add 3 tanks to the blufor faction, DON'T DO THAT:



The right way to do that is like this, in "Spawning groups" section in the same file:

```
//-SPAWNING-GROUPS:-BLUFOR-
//Define each group and their features and destination.

//Vehicles Groups
//[-faction, -faction's spawnpoints, -faction's vehicle size, -initial crew behaviour ("SAFE", "AWARE", "COMBAT")
[BLUFOR, CSWR_bluSpawnPoints, _bluVehHeavy, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_vehicle;
[BLUFOR, CSWR_bluSpawnPoints, _bluVehHeavy, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_vehicle;
[BLUFOR, CSWR_bluSpawnPoints, _bluVehHeavy, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_vehicle;
```

Important 3: Never set a vehicle classname in a group of soldiers. CSWR is coded to ignore this kind of mistake.

```
//Soldiers
private _opSquadLight = ["O_Soldier_TL_F", "O_Soldier_F", "O_G_Offroad_01_armed_F"];
```

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

How do I define how big must be a faction on the map?

Now, let's request CSWR to spawn the faction [groups already configured](#). In the `fn_CSWR_population.sqf` file, search the section "SPAWNING GROUPS" of the faction you want to populate in your mission:

1) Each line is a group that will spawn:

Each line represents a group that you wanna spawn right after the match starts. You will see the vehicle groups separated from the soldier's groups just to make it easier.

```
// Soldiers Groups
// [ faction, faction's spawnpoints, faction's squad size, initial squad behaviour ("SAFE", "AWARE", "COMBAT", "CHAOS"), THY_fnc_CSWR_wpGoToAnywhere ] call THY_fnc_CSWR_people;

[BLUFOR, CSWR_bluSpawnPoints, _bluSquadLight, "CHAOS", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadLight, "CHAOS", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadLight, "COMBAT", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadLight, "COMBAT", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadLight, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadLight, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadLight, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadLight, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadLight, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadLight, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadRegular, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadRegular, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadRegular, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadRegular, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadRegular, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadRegular, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadRegular, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadHeavy, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadHeavy, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadHeavy, "AWARE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadHeavy, "AWARE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
```

Don't forget to change (or not) with a specific group you want in each line:

```
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadLight, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadLight, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadLight, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadLight, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadRegular, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadRegular, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadRegular, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadRegular, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadRegular, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadRegular, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
```

2) Increase or decrease the faction size:

Super easy: just add or remove one or more lines in "Spawning Groups" section in the same file.

How do I manipulate the initial behavior of groups?

CSWR is limited to defining only the **initial behavior** of each faction's group. As the match unfolds, the original Arma 3 AI will make its own decisions. Let's take a look through the possible customizations. Let's check the `fn_CSWR_population.sqf` file.

1) Define the group personality:

For example, go to "Spawning Groups: Blufor" section and check it out:

```
// SPAWNING GROUPS: BLUFOR
// Define each group and their features and destination.

// Vehicles Groups
// [ faction, faction's spawnpoints, faction's vehicle size, initial crew behaviour ("SAFE", "AWARE", "COMBAT") ]

[BLUFOR, CSWR_bluSpawnPoints, _bluVehLight, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_vehicle;
[BLUFOR, CSWR_bluSpawnPoints, _bluVehLight, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_vehicle;
[BLUFOR, CSWR_bluSpawnPoints, _bluVehRegular, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_vehicle;
[BLUFOR, CSWR_bluSpawnPoints, _bluVehHeavy, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_vehicle;
```

Above, each line represents a group that will spawn, and each group has its initial personality configured. Below, the options you can use for one or more groups, up to you:

For people:

"SAFE"	Group starts walking with the guns low, looking around and feeling safe. (More natural, highly recommended for the most)
"AWARE"	Group starts walking but with guns ready, looking around and concerned.
"COMBAT"	Group starts running, ready to fight and keep the formation.
"STEALTH"	Group starts in combat mode, but much more in a cautious manner, moving always along the cover.
"CHAOS"	Group starts running, ready to fight and lose the formation.

For vehicle:

"SAFE"	Vehicle goes slow, crew feels safe, try to ride only on streets/roads. (More natural, recommended)
"AWARE"	Vehicle goes slow, crew aware, try to ride only on streets/roads.

"COMBAT"	Vehicle gets speed, rides everywhere, keeping the formation.
"STEALTH"	Vehicle in combat mode, but much more in a cautious manner, where wheeled vehicles will still follow roads if available, but no longer convoy. Tanks will avoid knocking down trees.
"CHAOS"	Vehicle gets speed, rides everywhere, losing the formation.

2) Define the group destination on the map:

Another behavior point to set for each group is its destination (waypoints) through the map: [let's check how the waypoints work here](#).

How do Waypoints work?

In CSWR, there is no end-point, which means after the group spawns, it will move through the map directly to the predefined waypoints, randomly, and can take a break just for a while before to the next waypoint.

Each faction's group configured to spawn can have a different destination (group of waypoints predefined).

1) Define how many waypoints will be available:

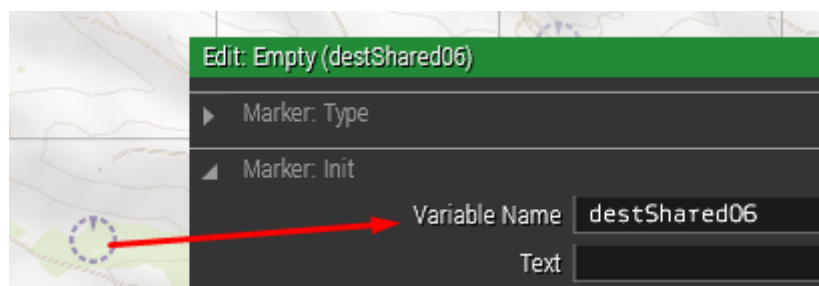
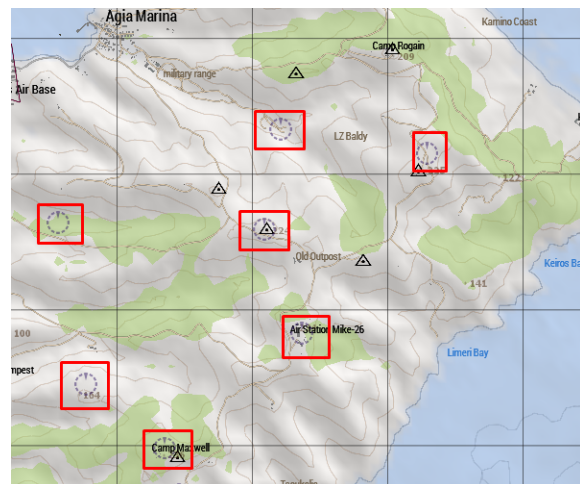
Let's open this file again:

Path: `\Your_Mission_Folder\CSWRandomiz\rfn_CSWR_spawnsAndWaypoints.sqf`

The waypoints are already defined in the file above. The only thing you must do is define them in your mission, so in Eden Editor, drop "Empty" markers on the map and rename each of them:

```
// WAYPOINTS: SHARED
// Define where anyone (including civilian)
// For new destination, add a new "empty marker"

CSWR_destinationShared =
[
    "destShared01",
    "destShared02",
    "destShared03",
    "destShared04",
    "destShared05",
    "destShared06",
    "destShared07",
    "destShared08",
    "destShared09",
    "destShared10"
];
```



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.

Back to the .sqf file, by default, you have 10 waypoints “destShared” to drop and to name in your mission. Of course, you might add or remove waypoints “destShared” as much as you want, since you don’t forget to sync them between Eden Editor and *fn_CSWR_spawnsAndWaypoints.sqf* file.

2) Define where each spawned group will move:

Back to the file: *fn_CSWR_population.sqf*

```
// Soldiers Groups
// [ faction, faction's spawnpoints, faction's squad size, initial squad behaviour ("SAFE", "AWARE", "COMBAT", "CHAOS"), THY_fnc_CSWR_wpGoToAnywhere ] call THY_fnc_CSWR_people;

[BLUFOR, CSWR_bluSpawnPoints, _bluSquadLight, "CHAOS", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadLight, "CHAOS", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadLight, "COMBAT", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadLight, "COMBAT", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadLight, "COMBAT", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadLight, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
[BLUFOR, CSWR_bluSpawnPoints, _bluSquadLight, "SAFE", THY_fnc_CSWR_wpGoToAnywhere] call THY_fnc_CSWR_people;
```

Particularly, I like to use the same configuration for all combat factions, changing it just for the civilian faction. Let’s check what options you have to change in *fn_CSWR_population.sqf*:

<i>THY_fnc_CSWR_wpGoToAnywhere</i>	Group goes to any waypoint. (Highly recommended to be used by armed factions)
<i>THY_fnc_CSWR_wpGoToDestShared</i>	Group goes to where anyone may go, including civilian waypoints. (Highly recommended to be used for civilian faction)
<i>THY_fnc_CSWR_wpGoToDestBlu</i>	Group goes to Blufor special waypoints. (Recommended to be used only by Blufor)
<i>THY_fnc_CSWR_wpGoToDestOp</i>	Group goes to Opfor special waypoints. (Recommended to be used only by Opfor)

<i>THY_fnc_CSWR_wpGoToDestInd</i>	Group goes to Independent special waypoints. (Recommended to be used only by Independent)
-----------------------------------	--

Important: **NEVER** set a waypoint out of the map limits. Arma 3 no recognize positions beyond the map edges.

Can the groups move free, with no waypoints?

No. In CSWR, the idea is the Editor has total control of the areas where the troops should visit.

How do Spawnpoints work?

In CSWR, the AI will use some predefined points as Spawnpoints, which they will use randomly only once right before the mission gets started. It can take a while like 1 or 2 minutes, depends how many units CSWR will create for you.

Each faction should have its own spawnpoints, never sharing them.

Define how many spawns will be available:

Let's open the file:

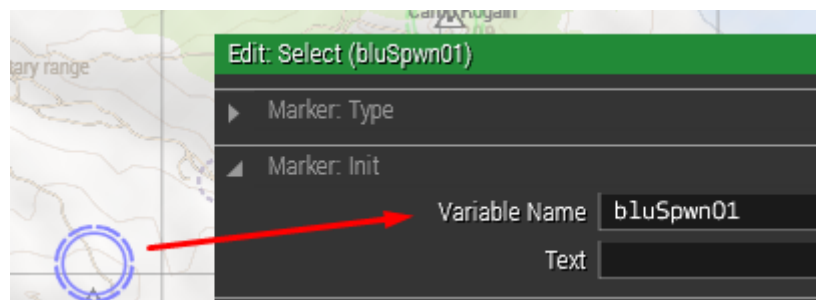
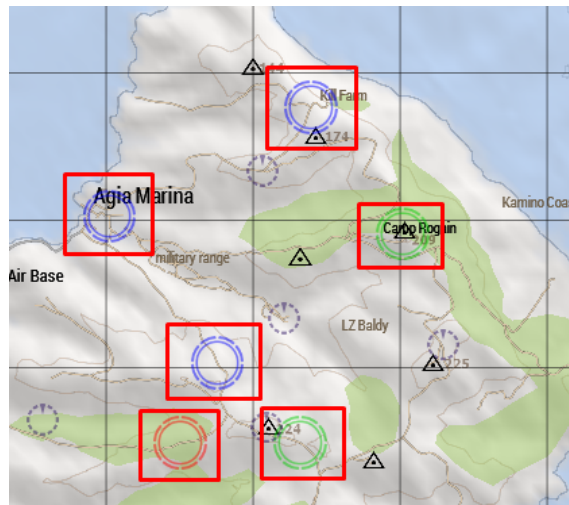
Path: `\Your_Mission_Folder\CSWRandomizr\fn_CSWR_spawnsAndWaypoints.sqf`

The spawns are already defined in the file above. The only thing you must do is define them in your mission, so in Eden Editor, drop "Select" markers on the map and rename each of them:

On file:

```
// FACTION SPAWNPOINTS:  
// Define where each faction in-game  
// For new spawnpoints, add a new "em  
  
// BluFor spawnpoints:  
if ( CSWR_spawnBlu ) then {  
    CSWR_bluSpawnPoints =  
    [  
        "bluSpwn01",  
        "bluSpwn02",  
        "bluSpwn03"  
    ];  
};
```

On Eden:



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

Back to the .sqf file, by default, you have 3 spawnpoints by default for each faction (including Civilian) to drop and to name in your mission. If you don’t wanna spawn civilians and independents through CSWR script, for example, make sure you set those factions as “FALSE” in the file:

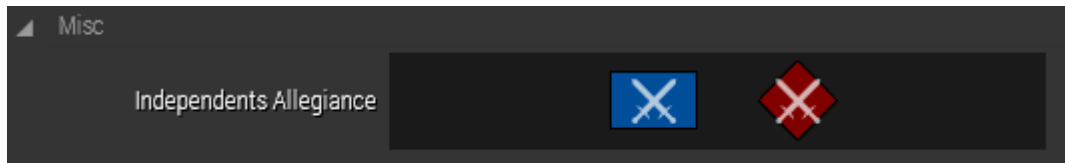
```
// PARAMETERS OF EDITOR'S OPTIONS:  
  
CSWR_debug = false;  
CSWR_spawnBlu = true;  
CSWR_spawnOp = true;  
CSWR_spawnInd = false;  
CSWR_spawnCiv = false;  
CSWR_unlimitedFuel = false;  
CSWR_unlimitedAmmo = false;
```

Of course, you might add or remove spawnpoints as much as you want, since you don’t forget to sync them between Eden Editor and *fn_CSWR_spawnsAndWaypoints.sqf* file.

How do I define who the enemy of whom is?

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, clicking over the side flag.

How do I customize the faction army loadout?

Since CSWR v2.6, you can easily customize the whole unit loadouts, including uniforms, vests, and backpacks and their contents.

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.

Critical: 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 classna
+ [_unit, "H_Booniehat_tan", "H_HelmetSpecB_sand"] call THY fnc CSWR helmetReplacement; //
```

To set all infantry soldiers and crewmen with no helmet/cap/balaclava/hat, just set the first and the second green classnames as “” for each one.

To force CSWR to ignore any helmet customization, just insert // in front of the code line shown in the image above.

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.

But what about custom these containers? This feature is my favorite one about CSWR: **changing the unit containers without losing the items belonging to the original unit classname**. 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; //
```

To set all units from a faction without one or more containers, just set the green classname as "".

To force CSWR to ignore any container customization, just insert // in front of the code lines shown in the images above.

Important: if you want to force vest and/or backpack for all units spawned via CSWR, including those units that originally has no backpack or vest, you should visit the **fn_CSWR_spawnsAndWaypoints.sqf** file and, in the parameters section, change these values below:

```
// PARAMETERS OF EDITOR'S OPTIONS
CSWR_debug = true; .....
CSWR_spawnBlu = true; .....
CSWR_spawnOp = true; .....
CSWR_spawnInd = true; .....
CSWR_spawnCiv = true; .....
CSWR_backpackForAll = false; .....
CSWR_vestForAll = false; .....
CSWR_unlimitedFuel = false; .....
CSWR_unlimitedAmmo = false; .....
CSWR_editableByZeus = true; .....
```

4) 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.

```
// Exclusively for things to add or link:
→ _unit.addItem "arifle_MXM_Hamr_pointer_F"; .....// create the
→ _unit.linkItem "arifle_MXM_Hamr_pointer_F"; .....// assign the
→ _unit.addItem "FirstAidKit"; .....// create just one bandage
→ _unit.addItem "FirstAidKit"; .....// create another bandage
→ // _unit.addItem "ItemGPS"; .....// create item to unit inven
→ // _unit.linkItem "ItemGPS"; .....// assign the item to the
```

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.

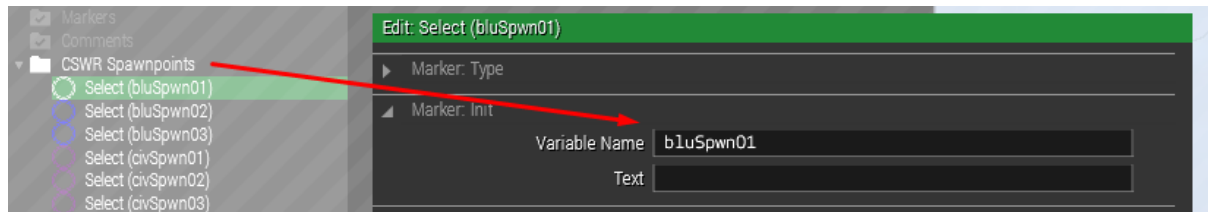
Important: if [something is wrong in your loadout changing tests or you want to learn how to see the original unit loadout code, check this out.](#)

Fixing: units spawning out of map

Look to the image below and notice the unit falling in the map lower-corner:



If you are facing the same problem, it's because some spawnpoint is missing on map. Make sure all spawnpoints are declared in the `fn_CSWR_spawnsAndWaypoints.sqf` file also are correctly dropped and named on your mission map.



See: if you want to use less than those spawnpoints declared, make sure to comment the spawnpoint line to avoid that weird line problem:

Before:

```
// FACTION SPAWNPOINTS:
// Define where each faction in-
// For new spawnpoints, add a ne

// BluFor spawnpoints:
if ( CSWR_spawnBlu ) then {
    CSWR_bluSpawnPoints =
    [
        "bluSpwn01",
        "bluSpwn02",
        "bluSpwn03"
    ];
};

// OpFor spawnpoints:
if ( CSWR_spawnOp ) then {
    CSWR_opSpawnPoints =
    [
        "opSpwn01",
        "opSpwn02",
        "opSpwn03"
    ];
};

// Independent spawnpoints:
if ( CSWR_spawnInd ) then {
    CSWR_indSpawnPoints =
    [
        "indSpwn01",
        "indSpwn02",
        "indSpwn03"
    ];
};
```

After (solution):

```
// FACTION SPAWNPOINTS:
// Define where each faction in-
// For new spawnpoints, add a new

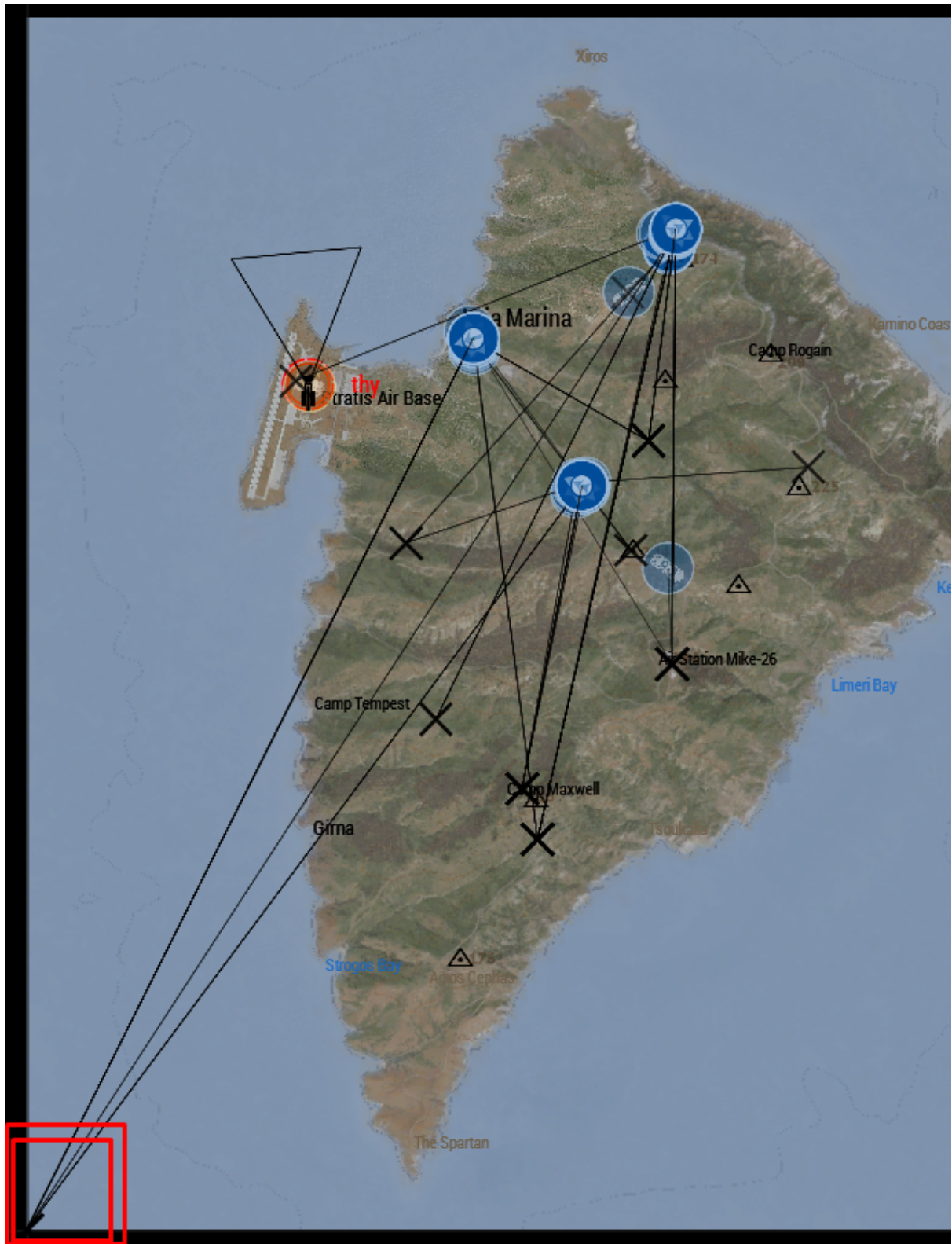
// BluFor spawnpoints:
if ( CSWR_spawnBlu ) then {
    CSWR_bluSpawnPoints =
    [
        "bluSpwn01"
        //"bluSpwn02",
        //"bluSpwn03"
    ];
};

// OpFor spawnpoints:
if ( CSWR_spawnOp ) then {
    CSWR_opSpawnPoints =
    [
        "opSpwn01"
        //"opSpwn02",
        //"opSpwn03"
    ];
};

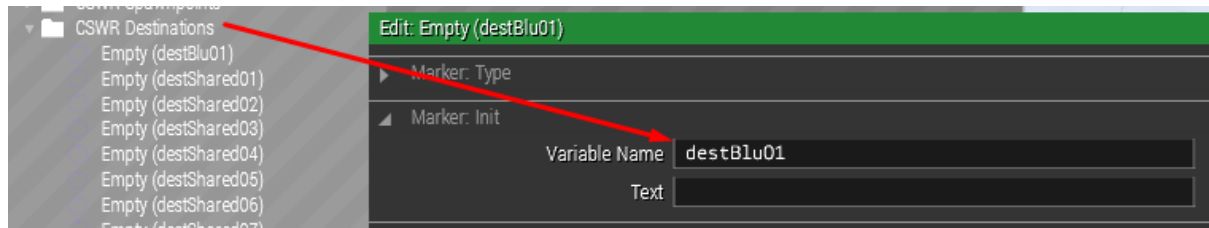
// Independent spawnpoints:
if ( CSWR_spawnInd ) then {
    CSWR_indSpawnPoints =
    [
        "indSpwn01"
        //"indSpwn02",
        //"indSpwn03"
    ];
};
```


Fixing: weird waypoint out of map

Look to the image below and notice those nowhere waypoints on the lower-corner:



If you are facing the same problem, it's because some waypoint is missing on map. Make sure all waypoints are declared in the `fn_CSWR_spawnsAndWaypoints.sqf` file also are correctly dropped and named on your mission map.



See: exclusive faction waypoints sometimes are not used, so you should comment on them to avoid that weird line problem:

Before:

```
// WAYPOINTS: BY FACTION
// Define where each faction in-g
// For new destination, add a new

// BluFor destination:
if ( CSWR_spawnBlu ) then {
    CSWR_destinationBlu =
    [
        "destBlu01",
        "destBlu02"
    ];
};

// OpFor destination:
if ( CSWR_spawnOp ) then {
    CSWR_destinationOp =
    [
        "destOp01",
        "destOp02"
    ];
};

// Independent destination:
if ( CSWR_spawnInd ) then {
    CSWR_destinationInd =
    [
        "destInd01",
        "destInd02"
    ];
};
```

After (solution):

```
// WAYPOINTS: BY FACTION
// Define where each faction in-g
// For new destination, add a new

// BluFor destination:
if ( CSWR_spawnBlu ) then {
    CSWR_destinationBlu =
    [
        //"destBlu01",
        //"destBlu02"
    ];
};

// OpFor destination:
if ( CSWR_spawnOp ) then {
    CSWR_destinationOp =
    [
        //"destOp01",
        //"destOp02"
    ];
};

// Independent destination:
if ( CSWR_spawnInd ) then {
    CSWR_destinationInd =
    [
        //"destInd01",
        //"destInd02"
    ];
};
```

Fixing: vehicles blowing up at the match start

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

Important 1: the more spawnpoints available, the fewer accidents such as infantry being run over and vehicles colliding.

Important 2: **NEVER** set a spawnpoint out of the map limits. Arma 3 no recognize positions beyond the map edges.

Fixing: I'm trying to edit the unit's loadout

If you are facing a hard time editing your unit's loadout, 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:

```
this addWeapon "Rangefinder";

comment "Add items to containers";
this addItemToUniform "FirstAidKit";
for "_i" from 1 to 2 do {this addItemToUniform
"30Rnd_65x39_caseless_black_mag";};
for "_i" from 1 to 5 do {this addItemToVest "30Rnd_65x39_caseless_black_mag";
};
for "_i" from 1 to 2 do {this addItemToVest "16Rnd_9x21_Mag";};
for "_i" from 1 to 2 do {this addItemToVest "HandGrenade";};
for "_i" from 1 to 2 do {this addItemToVest "B_IR_Grenade";};
this addItemToVest "SmokeShell";
this addItemToVest "SmokeShellGreen";
for "_i" from 1 to 2 do {this addItemToVest "Chemlight_green";};
for "_i" from 1 to 2 do {this addItemToBackpack "Titan_AT";};
for "_i" from 1 to 2 do {this addItemToBackpack "Titan_AP";};
this addHeadgear "H_HelmetB_light_wdl";
this addGoggles "G_Tactical_Black";

comment "Add items";
this linkItem "ItemMap";
this linkItem "ItemCompass";
this linkItem "ItemWatch";
this linkItem "ItemRadio";
this linkItem "NVGoggles_INDEP";

comment "Set identity";
[this,"WhiteHead_11","male05eng"] call BIS_fnc_setIdentity;
```

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

```
//_unit unlinkItem "NVGoggles";
_unit unlinkItem "NVGoggles_INDEP";
```

How can I 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>

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