Boids exist only as an atmospheric entity, to add life and ambiance to the level. Boid entities simulate living animal objects that have simulated group behavior and obstacle avoidance.

Their complex behavior arises from the interaction of an individual agent (Boid) with other agents and the environment that they are moving in.

For information on setting up Boids from an Asset Creation perspective, see Boids (animated).

Placing Boids as an Entity

Alternatively, you can place the Boid as an Entity from the Entity tab. Within the **Create Object Legacy Entities**, open the folder that contains the animal you want and drag it to the scene.

If the animal isn't displayed immediately, move the camera a good distance away from the Archetype Entity and then zoom back in. If this also fails to display the animal, save and reload the level.

Ambient animals cannot be directly controlled, but the player can interact with them. They come complete with sound effects and a simple flocking behavior.
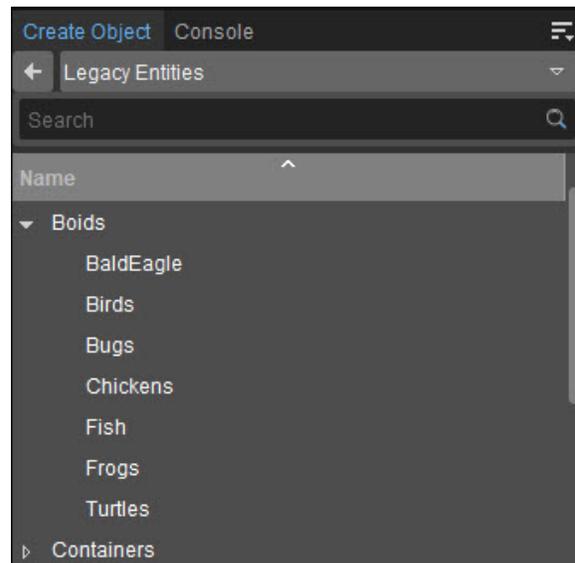
Boid Entity Properties

It is important to note that when referencing the available parameters below, that not all of them are available for all boid classes.

For example, Behavior classes are only needed for the Bugs boid class and don't appear in other Boid properties.

Boid

Property	Description
Animation	Deprecated

Behavior	This sets the movement behavior for the boid entity. 0 = Generic ground bug e.g. beetles 1 = Flying insects e.g. dragonflies 2 = Leaping insects e.g. grasshoppers
Count	The Count number specifies how many individual objects will be spawned.
gravity_at_death	Gravity acceleration that affects the body of the killed boid.
Invulnerable	Specifies whether the boid can be killed or not.
Mass	Mass of each individual boid.
Model	Geometry for the boid, can be a character (.CHR) or static geometry (.CGF).
Model1-5	Additional geometry for the boid can be a character (.CHR) or static geometry (.CGF). If you specify more than one option the geometry will be selected at random.

Flocking

Property	Description
AttractDistMax	Maximum distance at which one boid can see another boid. Boids that are too far away will not be interacted with.
AttractDistMin	Minimal distance that boids are comfortable with to stay close to each other before the separation force starts to affect them.
EnableFlocking	When enabled, the rules of the emergent flocking behavior will be calculated on the whole flock of boids.
FactorAlign	Steer towards the average heading of local flock-mates.
FactorCohesion	Steer to move toward the average position of local flock-mates.
FactorSeperation	Steer to avoid crowding local flock-mates, only when closer then AttractDistMin.
FieldOfViewAngle	Field of vision of the boid to consider other boids as flock-mates.

Ground

Note that these properties only apply when boids are walking on the ground. Boids will only be able to land in game mode and not while editing.

Property	Description
FactorAlign	The alignment calculation tries to ensure that all boids move in roughly the same direction.
FactorCohesion	The cohesion calculation tries to ensure that boids group together.
FactorOrigin	This origin factor controls how much boids are attracted to their point of origin.
FactorSeparation	The separation calculation tries to ensure that boids avoid one another.
HeightOffset	Vertical offset of boids from the ground.
OnGroundIdleDurationMax	Maximum time boids will spend in idle state.
OnGroundIdleDurationMin	Minimum time boids will spend in idle state.
OnGroundWalkDurationMax	Maximum time boids will spend in walk state.
OnGroundWalkDurationMin	Minimum time boids will spend in walk state.
WalkSpeed	Walk speed when boids land.
WalkToIdleDuration	Time it takes for boids to transition from walking to idle state.

Movement

Property	Description
FactorAvoidLand	Force coefficient to divert boid from the land or water.
FactorHeight	Controls the force that is applied to keep boids at the original height for the flock.

FactorOrigin	Controls the force that attract boids to the origin point of the flock.
FactorTakeOff	Vertical movement speed scale during take-off.
FlightTime	Approximate flight time before attempting to land.
HeightMax	Maximum height boids can fly to (Height above land).
HeightMin	Minimal height boid can fly at (Height above land).
LandDecelerationHeight	Height at which boids will start to decelerate when landing.
MaxAnimSpeed	If the boid had animations, then you can use this variable to control the speed of the animation
SpeedMax	Maximum speed that the boid can move with.
SpeedMin	Minimal speed that the boid can move with.

Options

Property	Description
Activate	When checked, active boids are visible and move from the start of the level. Alternatively, boids can be activated at a later stage with the activate event.
AnimationDist	Maximum distance from camera at which animations will update.
FollowPlayer	When checked, boids will only wrap around the current player position, flock origin point becomes the player position. If the boid flies too far away from the player, they will reappear on the opposite side.
NoLanding	Turns landing for bird flocks on/off.
ObstacleAvoidance	Boids will sense the physical environment and be diverted from the physical obstacles. This option adds heavier physical checks on the boids and should be used carefully, only when really needed.
Radius	Maximum radius the boid can move from the flock origin point.
SpawnFromPoint	If set to true, all the boids will spawn at the boid entity position.
StartOnGround	If true, boids will spawn on the ground, otherwise they will spawn in the air.
VisibilityDist	Maximum distance from which the whole flock can be visible. If player camera is further away from flock origin than Visibility Distance, boids will not be simulated or rendered.

Particle Effects

Property	Description
EffectScale	Scale of the particle effect to be played.
waterJumpSplash	Particle effect to be played when the boid splashes into the water.