

Minimum Viable Subnautica

Goals

- Just enough for people to “get” the vision and want more. It should define the vision, and be clear with what the game is about.
 - Understand that game is about exploration and the thrill of the unknown
 - Interesting interactions with fantastic creatures, without combat
 - Show the richness with which the player can experience and transform the world
- When feasible, make tools, vehicles, etc. game changing and horizon breaking. They should not open up a single/obvious option to the player, but change your interaction with the entire world:
 - Knife lets you harvest plants, kill creatures, or extinct entire species
 - Drill lets you change the landscape permanently
 - CLAW lets you move things (esp. creatures between biomes)
 - New vision mode shows you hidden heat signatures, so every biome is new
- Whenever feasible, make player actions have permanent effects.
- Keep it simple, keep it beautiful and keep it weird. - @edannunziata
- **TODO listed in yellow.** **After minimum viable in purple.**

Changelog

- Changed “Silica” to “Quartz” 3/3
- Reworked plant/creature labs. - 2/26
- Changed Compartments to Modules. Changed Syringes to Derms. Added MedLab, Derm Synthesis, Workbench and Freeform Cosmetics. - 2/26
- Changed “Sand” to “Silica” - 2/25
- Initial creation. 2/18

Game Start

Black screen with sounds of spaceship crash. Start on floating escape pod. Show player drawing PDA which alerts you to immediate goal (can't drop dive suit or PDA).

PDA

Three main functions:

1. Has minimap showing you what you've explored.
2. Scan found objects to get “blueprint” and unlock recipes. Stores blueprints and lets you read about them (add goal to scan something so player knows how to do this).
3. Lets you take pictures and view them.



PDA dialog

Flesh out the world simply and cheaply, through text descriptions. Also allows game to communicate game state easily. Example:

Although WX-78 shows hatred toward all living matter, it has a soft spot for bees, as when they are examined WX-78 says "A MINDLESS DRONE. I LIKE HIM."

When looking at something for a couple seconds, your PDA types out a description on your HUD, if you haven't seen that description this play session, or for 10 minutes. If you scan the object, it will always say it, optionally giving an extended version of the text. Use system like [Valve's AI dialog system](#) to implement.

PDA "voice" can be analytical and somewhat detached. Make malfunctioning and slightly "unhinged" due to the alien environment it's not used to. It doesn't tell the player what to do, but can "recommend" actions.

Examining your escape pod after your crash, before you've picked up your dive suit:

Escape pod crash-subroutine executed successfully. Emergency diving supplies intact.

...after player has dive suit (tell player something important):

Emergency escape pod fuel depleted. Seek alternate fuel source.

...when raining here (for flavor):

Escape pod hull intact. Recommendation: seek refuge from storm.

...after 10 hours of play:



Loot

The universal building block and core exploration motivation. Used for crafting and fuel.

Raw Materials

Naturally occurring raw materials. Try to only include materials that have an intuitive function. But don't include anything that doesn't have at least one unique purpose (not even for future). Think about using a [flux](#) for crafting.

Quartz

Purpose: glass, concrete, building material, water filtration, intuitive

Quartz-like rocks which can be used like sand. [Uses:](#) artificial reefs and islands, brick, mortar, cob, concrete, glass, sandbags, water filtration, abrasive for cleaning, preparing and polishing.

Scrap

Purpose: Raw/hard building material

Pieces of boats, machines, discarded tools, wreckage, scattered about.

Zinc

Purpose: Galvanizing steel to prevent corrosion, making batteries.

Also, Die-casting, pipes, gutters. Vulcanization of rubber. Zinc sulphate in agriculture and animal feed. ZnS and the selenide ZnSe are used in infrared optics. [More.](#)

Found as occasional chunks on the ground, or inside chunks of Limestone.

Limestone

Sometimes contains Flint or Zinc. Limestone typically does not form in deeper waters. Also can contain Lead.

Calcite

Stalactites and Stalagmites. Break open to find Calcium. Also breaksUse off small pieces that can be picked up, which can be used to make cement, fertilizers, metals, glass, rubber and paint.

Dolomite

Harder and denser than Calcite. Break open to find Copper (possibly Oil or Gas). Can't be picked up or used by itself.

Copper (inside other elements)

Purpose: Used for conductive elements, wire, cable, electric motors.

Rutile

Purpose: Optical (or Strengthener)

Has among the highest refractive index of any known material (so it distorts light a lot). It's a common accessory mineral in high-temperature and high-pressure metamorphic rocks and in igneous rocks. Found as chunk on ground nearby.

Salt

Purpose: Syringes.

Find in salt deposits.

Uses: synthetic rubber, firing of pottery, preservation of meat/fish, chlorine (poisonous at high concentrations), protects against infection and contagion, PVC, plastics, paper pulp. Food preservation, medical uses, synthetic rubber, chlorine/poison

Flint (inside other elements)

Purpose: Used for sparks, fire and cutting edges.

Emery

Purpose: Abrasive, make drills & cutting tools

Emery is a black or dark grey granular rock used to make abrasive powder. It largely consists of the mineral corundum (aluminium oxide), mixed with other species such as the iron-bearing spinels hercynite and magnetite, and also rutile. Used as an abrasive or as a component in cutting tools (drill bits, saw blades, fly cutters).

Mercury Crystal (Cinnabar)

Purpose: Thermometers, barometers, valves, switches.

Quite rare. Mercury is used in thermometers, barometers, manometers, sphygmomanometers, float valves, mercury switches, mercury relays, fluorescent lamps. Generally occurs as a vein-filling mineral associated with recent volcanic activity and alkaline hot springs. Cinnabar is deposited by epithermal ascending aqueous solutions (those near surface and not too hot) far removed from their igneous source. Found at borders between lava and crystal biomes.

Calcium

Purpose: Heat and electrical conductor.

Found in Calcite. Also, coral that's been destroyed eventually turns into calcium. Generates hydrogen in water. A reducing agent in the extraction of other metals, such as uranium, zirconium, and thorium.

Composite Materials

Forming raw minerals into 2nd order materials

Glass

Used for see-through elements.

Titanium

Purpose: Corrosion resistance and the highest strength-to-density ratio of any metallic element (tier 2 hard building material).

Strong lightweight alloy for aerospace (jet engines, missiles, and spacecraft), military, industrial process (chemicals and petro-chemicals, desalination plants, pulp, and paper), automotive, agri-food, medical prostheses, orthopedic implants, dental and endodontic instruments and files, dental implants, sporting goods, jewelry, and mobile phones.

Neoprene

Purpose: flippers, non-slip handles, anything waterproof, dive suit & clothes.

Generally takes 1 unit of neoprene for each hand or foot that makes contact with item.

Carbon

Refined from plant matter or Calcite.

Ethanol

Efficient sub fuel. Also used to make Ethylene. From decaying/decomposing plant materials, placed in the Composter.

Ethylene

Stimulating and ripening fruit, opening of flowers, shedding of leaves.

Plant & Creature elements

- Plant elements (Creepvine - burn for energy, large quantities for soap and glass, edible, burn for Sodium Carbonate. When decaying, can efficiently yield methane as well as sugars, which can produce ethanol), (Creepvine), (Creepvine Seeds)

- (Keeper Horn), (Glowing coral)

Blueprints

Precursor “blueprints” which are items that can be scanned with your PDA

- Compartment, sub, submersible schematics
- Recipes for solutions/tinctures to help player and creatures

Fabricator

This lets you open the crafting UI and build small things.

Outfit

- Flippers (added to outfit slot). Speed up your swimming but slows down your walking (15%).
- Tank (added to outfit slot). Slows down your walking and swimming (15%).
- Headlamp (outfit, not hand)
- Scrap sensing visor - Electronic visor that helps you “see” scrap/loot inside rocks/lava. Draw copper/scrap/gold/etc. as glowing through the terrain, but shows oscillating signal on HUD and plays squeaking metal-detector noises when you’re close.

Tools

- All tools expire over time (typically ~30 uses), but this is typically energy/battery/fuel, not wear.
- Dive knife (good to cut Creepvine, cut/kill creatures, but wears out quickly)
- Dive tool (crowbar with serrated/cutting edge, much faster/durable for plants, not much against creatures)
- (hightech “Hammer”) (hit rock/lava and it breaks occasionally). Use to break lava bridges, mine for resources out of rock.
- Drill - Small hand-held drill that’s faster and more durable for destroying rocks.
- Flashlight/[Light Cannon](#) - Handheld, greater range/battery (pistol grip, big bulb)
- Soldering gun - Stick hard things together with a fixed joint (horizon breaker).
- Hyperbaric Welder ([image ref](#)) - (underwater/high-pressure welder). Repair your sub. Some damage will need to be repaired from the outside, so you’ll have to swim to fix it
- Seaglide
- Bubbler - Creates and attaches bubbles to things, which make them float. ([link](#))

Deployables

- Flares (throw and they stick). Click to change color or to change their flashing pattern. They can shine for 30 minutes continuously. Use to mark areas or a path back out of a cave.
- Beacon - Small droppable that shows up on your minimap with an occasional “ping”.
- Video/Picture frame (place anywhere, allows player to add screenshots to it which rotate automatically - set just one for static)

Advanced

- Constructor (deploy to create Subs) (req. blueprint)
- Electrolizer - Converts water into hydrogen and oxygen (used to bail out sub). Cool effects when sparking and evaporating water. Adds some oxygen back into sub.
- Stunner - Temporarily immobilizes any small/medium creature for 5 seconds. Lowers their friendliness towards you (req. blueprint).
- Mech suit with drill arm (at Constructor)

Depth

- Depth/Pressure used to gate player and experience.
- Max depth of the world is 5km (5,000 meters).
- Each sub chassis is rated for a safe diving depth (no adverse effects) and a crush depth (sub automatically takes damage at this level or deeper). In between these two depths (weak depth), the sub will take damage if it hits something.
- Too much damage and your sub will flood.

Subs

Use meldmatter and Constructor to create three subs (from Constructor): Small, Medium and Large. In addition to a large number of buildable “squares”, each sub chassis has a Control Room for navigation and an Engine Room for power. Somewhere on each sub is a Fabricator, as well as a Dive Hatch. Sub damage can be repaired with hyperbaric welder.

Chassis	Size	Buildable squares	Meldmatter	Safe depth	Crush depth	Reinforce	Max weak depth
Hornet	S	10	50	250	500	250	1000
Cyclops	M	20	75 + blueprint	1000	1500	500	3500
Beluga	L	30	100 + blueprint	1000	2000	750	5000

Control Room (Chassis)

- Control room to drive sub. Spotlight light fixed on front of sub.
- A few buildable squares for Sensor Mounts (below).

Engine Room (Chassis)

- Shows “energy level” as well, which is used to power compartments, lights, etc.
- Compartments on your sub take power, esp. when in use (scanning, ROV operating, etc.). Your ship chassis (engine) requires power as well.
- Add any materials you find into furnace, to give you more power. Anything you put inside (loot, metals, composites) will give one fuel unit. Ethanol gives five.

Sub Customization

Simple new NS2 model found [here](#).

Small wall mounts

Wall Storage (default)

Fabricator

Req: Glass, Copper, Battery. Allows convenience crafting. Sub chassis' should all have a Fabricator pre-built.

Battery

Zinc + Carbon

High-voltage Battery

3 x Zinc + 2 x Carbon

(blade for saw/drill)

Emery x 2

Neoprene

Zinc

Carbon

Plant matter

Carbon (3x)

Calcite

Titanium

Scrap + Rutile

Glass

2 x Quartz

Flippers

Neoprene x 2

Tank

Scrap x 2

Headlamp

Glass, Scrap, Battery

Hammer

Neoprene + Scrap

Dive knife

Neoprene + Scrap + Flint

Dive tool

Neoprene + Scrap + Emery

Workbench

Req. Scrap + Emery + Flint. Allows creation of more sophisticated tools.

Hand-held Drill

Req. 2 x Scrap + Battery + 2 x Flint

Light Cannon

Req. ?

Soldering gun

Req. Battery + 2 x Scrap (1 for "solder") + Copper + Flint

Hyperbaric Welder

Battery + Scrap + Copper + Carbon (for anode/cathode) + Flint + Neoprene (waterproof)

Seajet

Req. Scrap + High-voltage Battery + 2 x Neoprene

Flares (3x)

Hydrogen or Acetylene + Neoprene (hose) + Flint

(transistor/computer components/computer chip)

Quartz + (plastic) => (computer chip)

Constructor

(computer chip) + ?

Beacon

Battery + (radio element)

Video/Picture frame

(computer chip) + Battery + (Plastic)

Metal-sensing visor

Scrap + Battery + Blueprint

Electrolizer

2 x Carbon + [Potash](#) + Battery

Stunner

High-voltage battery + Carbon + 2 x Copper + Blueprint

Planter

Req. 3 x Glass

Botany lab has aquarium planters for planting seeds or placing cuttings. Plants grow on their own. Pick leaves off plants to use as ingredients. Each leaf will generate oxygen for the sub.

Botanical Analyzer

Req. Glass, Battery, Computer Chip + Blueprint

Place recently live plants in analysis machines to learn recipes to craft medicine and pharmaceuticals. Periodically generates blueprints.

Composter

Req. Scrap + Neoprene

Can compost plant leaves, producing Ethanol. Efficient for long-term fuel, but not short-term. Ethanol can be picked up out of container, and then either placed into the furnace or kept in inventory for other purposes.

Fertilizer

Req.

Converts: 1 Ethanol to 1 Ethylene

Allow player to create Ethylene from Ethanol - this works like Composter in Engine Room. Can then be dropped on a plant to speed leaf growth.

Sensor Construction

Must go on Sensor Mounts, which are in the Control Room. These are high-tech boxy computer devices (on the wall, or table mounted), which can be accessed to craft new sensors. When a

Sonar

Req. Glass + Copper + Stalker Blueprint

detect big/distant things, or see ocean bottom as 3D wireframe projection. Displays intermittent "snapshots" of the ocean floor, as well as creatures below. (req. blueprint)

Element sensor

Req. Glass + Copper + Grabcrab Blueprint

Customizable - place loot, egg, item, etc. in it.

Small floor mounts

Reinforcement Strut

Req. 3 Titanium and blueprint.

Adds 200 meters to both safe diving depth and crush depth. Model looks like struts that go up to the ceiling to reinforce.

Medlab

Req: 1 Titanium + Battery + Copper + Blueprint.

Heals nearby player or creature when using it. Prerequisite for Derm Synthesis.

Derm Synthesis (must be next to Medlab?)

Req: Medlab + Chip + Blueprint

Use to craft syringes, which you can inject to change your abilities. Use plant/creature element, but also requiring the research blueprint. All syringes require salt water. Creature isn't killed, but small extraction taken from him. Can only use each creature once.

- Study Peeper, to unlock Peeper Sight. Req. Salt + Peeper DNA + Peeper Sight blueprint: Once available, combine Peeper and Creepvine leaves to create Peeper Sight syringe. Take syringe to Sharpen sight for a minute (increase brightness, highlight moving objects).
- Study Jumper -> Learn Adrenal Boost (from jumping). Req. Salt + Jumper DNA + Adrenal Boost blueprint: Make a Adrenal syringe which is a stimulant to increase swim/sprint speed.
- Study Grabcrab: Grants Loot Detector blueprint.
- Study for Dazzle. Req. Salt + Dazzle DNA + Dazzle blueprint: makes your skin glow and pulsate after taking it. Later it grants Camouflage, which blends your skin into the background.
- Req. Salt + Snap DNA: Snaps grant basic damage toxin. Maybe something from their beak?
- Req. Salt + Stalker DNA: Study Stalker: Grants temporarily webbed hands for faster swimming, increased hearing, so your hearing distance increases a lot - horizon breaker. Studying also grants Sonar Blueprint.
- Study Reefback for Skin Carapace. Salt + Reefback DNA + Skin Carapace blueprint: You move slower, but skin hardens and gives more protection from damage (only yourself, not submersible).
- Req. Salt + Coral Trap DNA: Coral Trap lets you build a trap?
- Study Pianist, gain the ability to craft a "reed", which can be used to craft things that make noise. But they must be captured alive (somehow). Use as "animal repellent" (extract scent of a creature, then use that to repel an enemy of that creature)
- Use as healing medicine (for yourself when urgent or for a creature)
- Night vision, overbrightening thing, or something to give you sharper vision (or pick out loot, or moving things were highlighted, or even "danger sense" or "heightened awareness")
- If you keep using these elements, you get the ability long-term (eyes change color permanently, fingers stained that color)
- Biome-specifics effects: cold-water plants give you cold-resistance
- Or maybe plants you can use to affect creatures (hallucination, catnip)
- Food binding ingredients

Precursor Teleporter

Req. blueprint. Use "precursor" technology to upgrade your sub in weird/magical ways.

Launch mounts (External)

Submersible Platform

Costs 2 Titanium. Houses a single Submersible on a small platform or staging area. Click it to bring up a construction menu. This works like crafting, in that you can use materials and blueprints to build a submersible.

Mini (Seamoth, Peewee, Bantam, Midget) (no blueprint req)

- High-voltage battery + 4 Glass + 2 Scrap + 1 Copper + 2 Titanium
- High speed
- Small to fit into cave entrances
- Some protection from creatures

Exosuit (req. blueprint)

- Req. Scrap x 4 + High-voltage battery + 2 x Glass
- With drill-arm: Req. Scrap x 4 + High-voltage battery + 2 x Glass + Emery x 4

C.L.A.W. (req. blueprint)

- High-voltage Battery + 2 Glass + 3 Scrap + 3 Titanium + 5 Copper + Blueprint Convulsing Linear Actuating Wand. Allows player to manipulate it and pick up things. Probably better on a submersible (otherwise it's too far from Control Room). Pick up creatures and put them in the tank.
- Upgrade to give it the ability to stun held target with electricity.

Zoology Containment

Req: 4 x Glass

Water tank for creature. Stun them with submersible and then pick them up into the claw (so you can't pick up anything else), then you swim to the tank exit, click again to deposit it, it appears inside and the doors close automatically. Or open up to release creature into the wild. Allows players to study creatures THEMSELVES, by looking at them up close, shining lights on them, seeing how they react to sounds and vibrations, etc. Also allows players to move creatures between biomes, which is critical.

Zoology Containment with Analyzer

Req: Zoology Containment + Chip + Blueprint

Put creature or egg in tank which waves a scanner thing back and forth over it, studying it. Occasionally pokes it with a little needle or something to extract from it. Shows you a percentage bar for your next discovery, then unlocks new knowledge (for your PDA) which gives you new abilities.

Sensor Mounts

Biomes

- 70% Coral Reef super biome, composed of 8 biomes (Kelp Forest, Dense Kelp Forest, Sunny Kelp Forest, Coral Reef, Danger Reef, Safe Shallows, Grand Reefs, Floating Islands)
- 20% Lava super biomes, composed of four biomes (Lava Zone, Lava Bridges, Inactive Lava Zones, Thermal Vents)
- 10% Crystal super biome, composed of a two biomes (Crystal Bottom, Crystal Garden)

Wildlife

- To start: A few ornamental, beautiful, reactive creatures. A few kinds of plants, for crafting ingredients and making oxygen. A couple basic creatures, including one that can be made friendly. A couple dangerous creatures. 1 “hero” creature.
- Have some creatures drop elements when moving, when damaged, or killed (use for recipe ingredients)
- Really like the idea that as you research/study a creature, you start to understand what that creature feels like. You get some of their senses, so you reach greater understanding. Or could unlock research, items and/or goals/missions.
- Creatures are Passive, Neutral or Hostile.
 - Passive creatures will never attack the player, even if attacked or chased after
 - Neutral creatures turn aggressive towards the player when the player provokes them due to a certain action, like attacking them or one of their own kinds
 - Hostile creatures turn aggressive towards the player as soon as they see him/her

Reactive Creatures

BloomPlankton (Passive)

Glowing plankton that's attracted to light, then takes on that light. They follow your flashlight (for instance) and then start glowing in that same hue. They would also take on the glow of nearby lava, or even phosphorescent plants.

Brain Coral (Passive)

Releases oxygen bubbles intermittently, which the player can pick up for 10 seconds of oxygen. If you run into brain coral with sub, spawn some particle effects, fade to dead texture - kill it. It stops giving out oxygen and will turn to calcium after a few weeks.

Peeper (Passive)

Travels in schools, looking at the fastest moving, most lit up thing within 40 meters. Creature, player, dropped item or loot. They will keep that thing in view, so depending on what they're looking at they'll change their movement path. Players should be able to notice a big creature approaching from behind them, or notice they dropped something something.



Lights in darker areas often mesmerize them, making them travel in circles around them. Flashing lights make them move a bit more unpredictably, stealing and losing their attention. Can be killed with a weapon. Turns into Fish Meat when killed.

Occulus (Passive)

Found deeper down? No mouth. Swims vertically (Pat)?



Plants

Creepvine (generic green plant, Passive, was "Kelp")

Can be harvested with a knife for a kelp/plant ingredient. Can be picked, planted and grown. Eatable.

Glowvine (forests, seeds, glowsource, Passive)

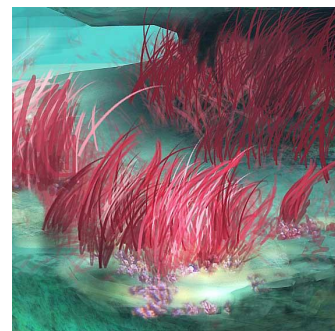
The glowing "bulbs" seen in mature species are actually seed pods. Once mature, they pulse and glow brightly and fall off (when the player is nearby). Hungry creatures are attracted by these lights and can eat the pods, carrying them far away before redepositing them again. Touching a mature seed pod can break off the pod, which drifts along currents like a firefly, stopping and "catching" on the first thing it touches. If it gets enough sunlight, it will grow into a new Creepvine. Players can eat seeds. If they eat many, they start to glow.



Bloodgrass (red grass from concept, Passive)

Touching Bloodgrass releases red smoky dye into the water (presumably a "smokescreen" for some creatures). Bloodgrass can be picked, planted and grown from pickings.

Grants: Red dye, tincture to release in water that creates your own "smokescreen" cover



Simple Creatures

Pianist (Passive)

The pianist uses the "reeds" on his neck to play sounds that travel far through the water. Each creature is "tuned" to a particular note in a scale, which allows the player to use them as landmarks. When killed, they stop playing their music.



TODO: How could their “tune” change and be more dynamic?

Snap (Passive)

This is a small blind scavenging fish (a few variants) that travels in schools of 5 to 20. It uses sonar to detect moving creatures, and it has a chance of “detonating” when it detects an enemy nearby. Upon detonation, it releases a toxin into the water makes its “snapping” sound. It does this to protect the rest of the school. When a Snap detonates, it increases slightly the chance of detonation for all other Snaps within 3 meters.



Snaps also move away from targets, to protect themselves. Snaps can often defend themselves from small or even medium sized creatures. When a Snap is near a dead creature, it immediately moves towards it and starts nibbling on its flesh (making a “chittering” sound). This sound can be heard by Snaps (and humans) within 50 meters, which attracts more of them to the meal. When many Snaps are feeding, the sound can be deafening and can travel for a mile. The idea here is that Snaps make lots of noise and can be seen moving away and towards their targets with dramatically different effects. Knifing Snaps will turn them to Fish Meat, as will releasing live Snaps into air. Eatable.

Grabcrab (Neutral)

Grabs any loot within radius and collects it in his den. If it sees Fish Meat, it will eat it if not too close to the player. If the player feeds one Fish Meat, it will become more friendly, and willing to accept food from increasingly close distances. Once friendly, it no longer fears the player and will follow them around. Friendly Grabcrabs will fetch loot for you?



Jumper (Neutral)

A curious and smart creature, like a Cuttlefish. Jumpers can swim too, and will sometimes get curious and look straight into your eyes if you don't make sudden movements and don't appear to be armed. They scuttle around on the sea floor. They sometimes find a mated pair and then stay together until one of them dies. They hide in Creepvine when they feel threatened.

Goals:



- Feed a Snap to a Jumper so he follows you for awhile and becomes your friend. Until a Stalker eats him instead of you.
- Move a Jumper by scaring him so he jumps into a current
- Knife a Jumper to attract a Stalker
- Watch Jumpers hide from a Stalker by walking into vegetation on Reefback. But once there are too many, it swims away.

Mimic

- Creature that plays sounds that hear it hears in the environment. Kind of like in the Hunger Games, with birds that transmit sounds to each other, or like [bird mimicking chainsaw](#). Concept art not done yet.

Dazzle

- Creature that hypnotizes others <http://youtu.be/l1T4ZgkCuiM?t=56s>
- Can also blend into the background
- Small creatures that are nearby stop and stare whenever there's a show. Then he lashes out and eats him whole, stopping the show and scaring off the others (Snaps, Jumpers, Mimics, Pianists)
- **Can this affect the player?** It would be a really beautiful (but deadly) experience to see the world get all colorful and to have you transfixed - but you'd probably only fall for it once.

Dangerous Creatures

Stalker (Hostile)

Swims around like a shark, looking for prey. If sleeping, he "spawns" via bubbling patch on the ground, then erupting out of it. He won't attack until hungry or damaged. Stalkers are mostly blind (they useless eyes have gone white, and have developed reptilian "ear holes"), and navigate through their attuned hearing, detecting even bubbles of magma as they are popping, and before they erupt. They are attuned to sounds from up to 200 meters, and will often investigate the source of noise. They swim in total silence, in order to scan their surroundings. They seem to even detect the sound of water being displaced, so players must stay perfectly still (without even rotating) to hide from them.



The hungrier they are, the most desperate they become, going on a rampage, attacking and trying to eat anything that makes any sound at all. After they attack a source of sound, they remember if it was food or not, so usually won't keep attacking the same target if they were unable to contact something meaty. He is also attracted to the smell of blood in the water.

If you can get out of the way of his charge, he may hit crusted lava near you and break it off, often sending it down into magma. The Exosuit gives you much more protection, but only total stillness will ultimately protect you.

Coral Trap (Neutral)

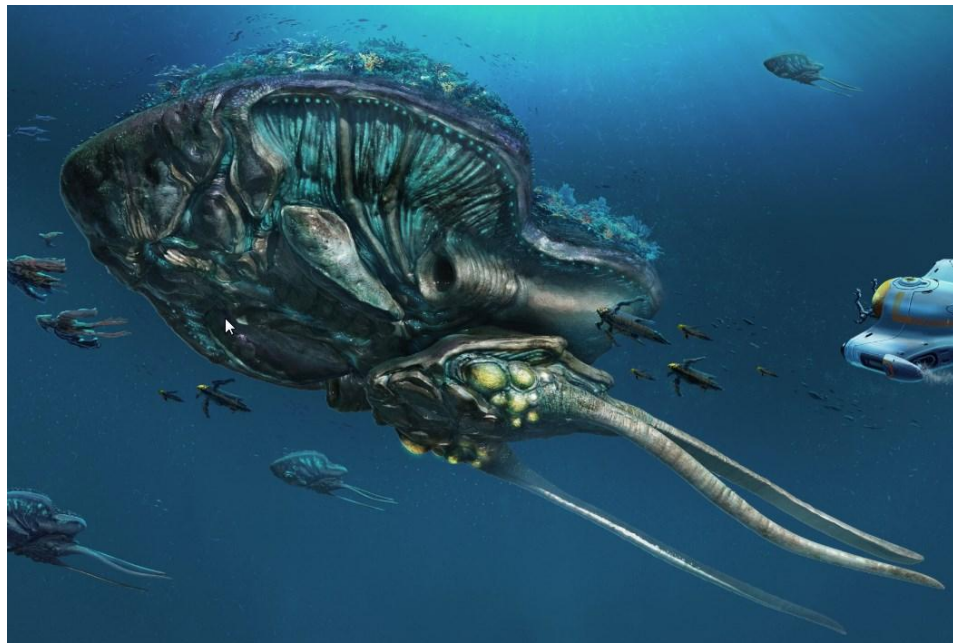
Get too close and it will poison and kill you. When killed, it releases a poison cloud that persists for a minute.

Hero Creature

Reefback (Passive)

Sits on ocean floor, embedded down into it a bit so it's not immediately clear there's a creature there. (plants) slowly grows on his back, which can be picked normally. Creatures or the player in the Seakelp are hidden from view of other creatures.

When 5 living creatures are nearby or on the Reefback, he becomes disturbed and will find somewhere else to sit. He slowly rises up out of the silt, sending sand in all directions. Then he slowly pivots and orbits up to find another empty location (pre-placed points in tiles). Reefbacks only spawn in big open biomes so they can move between these points and not hit anything. They also can't travel outside of their originating biome.



Has tentacles or hand-holds on the top so the player can grab and take a ride (while staying hidden in the vegetation). See scenes/Reefback.scene for an interactive demo.

Goals:

- Hitch a safe ride somewhere by grabbing onto a Reefback's vegetation (but can't see exactly where)
- Hide under a moving Reefback to avoid being seen by another creature

Environment

Currents

Act like “roads”, pushing players, creatures and subs with force along them.

Thermal Vents

Found in the lava zone, these erupt every so often, damaging everything caught in their column. They telegraph themselves with bits of smoke and steam before they go off.

Radiation points - 5/22

Cory and I talked about having special areas that have radiation leaking out of them. These are likely Precursor energy plants that have since melted down. They are contaminating the area and perverting the alien creatures - causing them to be covered with DI-like cancerous bumps. You could heal the creatures on your sub and shut down or clean up these radiation points, giving you a positive thing you could do to transform the planet. This would give you something you could do to heal the planet before leaving it.

You could then build a radiation sensor, which would show you the location of other radiation spots, giving you a reason to explore and cleanup. Allows you to decide to clean up everything before winning the game or not - a moral choice? More “nurture”.

Blueprints

Sprinkle these around the world. Need lots and lots of them to make sure players want to keep exploring. Duplicate blueprints can be converted to meldmatter (count as 3).

- Vehicle Bay: Plummet, CLAW, Exosuit
- Cyclops, Beluga (Precursor)
- Seajet
- Constructor
- Stunner
- Teleporter (Precursor)
- Noise-cancelling module: Nothing makes sound within a range of 40 meters. (req. blueprint)

Short-term after MVP

Wrecks

- Source of “blueprints” and salvageable equipment
 - Lockbox (store stuff, shows up on Minimap as orange blip)
 - Electronic fishing trap (hovering box that closes on prey)
- Stasis generator
- Nano-blade

Foreshadowing

- At main menu show a preview of something that currently exists in your world. An “attract mode” - from Ed Annunciata.

Seeing new worlds

- After beating the game, going through a Precursor “gate” brings you to a newly-generated world. Each world you go to warps the world generation algorithm, and/or mutates creatures so you get some really wild new experiences. It doesn’t need to be balanced or even functional, as you’ve already beaten the game and can always get back to your core world.

Advanced Crafting

- Nano-blade - A more deadly knife, with longer range and higher durability. Ma
- Stasis generator - Deployable energy dome that freezes anything (other than a player) that touches it. It can last up to 60 seconds before it runs out of juice. Frozen creatures don’t age, eat, move, think, etc. They are frozen in position and can’t be affected by physics. (req. blueprint).
- Recycler? - Destroys objects you place inside (creatures, mostly used tools, extra loot)
- Liquid Breather- Required for very deep scuba diving (1,000+ meters)
- Cloning Terraformer - Duplicate matter on ocean floor, allowing player to “build”. Perhaps don’t allow this on sand so we can allow “Walker” to move unobstructed.
- Thermgun - Heat or cool an area.
- Thumper - Shoot into a reef wall, causing creatures to notice and attack that direction.
- Thermometer - Mercury.
- Mercury Relay - High-voltage “switch”

Constructor Room

Build small room that can be used as start of Seabase (req. Blueprint)

Control Room

- Detect vibrations
- Proximity sensor - alerts you when close to an obstacle

Submersible Bay

Magtug

- Powerful, slowish big 1-man sub that can shoot magnetic disk and then pull sub somewhere.
- Use to move a powered down sub or rearrange a Seabase.

Sub Garage (Large, External)

- Place to park, store and transport other subs. Sub goes in and out of Sub Garage the way submersibles work (enter the sub to teleport into the water, drive up to the loading door and click to teleport you and it back inside).
- Only the biggest subs can have one of these, and can typically only hold a couple small or 1 medium sub. Of course those themselves may have a Sub Garage in them...

Science Module

- Camouflage for sub (if unlocked)
- Supercavitation upgrade (from Bulletfish or Mantis Shrimp type creature).
Increases sub movement speed by 33%.

Robotics Bay (Small, External)

- Houses a single small robot.
 - “Buddy” robot that follows you around, picks up nearby loot for you, and talks to you. If you are more than 30 meters away, it gets “lost” and shuts down, broadcasting a distress signal on your minimap every so often. It might help you attack something if you do, or it could give you some extra oxygen if you run out.
 - Remote controlled rover you can see through and pilot into small spaces and down deep. So small most creatures won’t notice it. Lets you explore with impunity, but visuals are a bit grainy - it doesn’t look as beautiful or majestic as with your own eyes. Moves quickly.

Supply Closet (Small)

- Oxygen - Adds oxygen capacity to sub.
- Furnace?

Stations/Seabases

Differentiated from Subs

- Immobile, but much stronger

- Each one is an industrial Compartments (Rooms). Build the empty Room first, then configure it to what you want?
- Is power controlled centrally, or per Room? Or differentiate: sub power limited to just a few things (and uses fuel), but a base
- Use fixed location and stability for mining, stability in currents, heat protection
- Allows a “foothold” deeper down, so you don’t have to return to the surface for oxygen, sub building, etc.
- Use to build barriers, walls or decoration
- Mass storage.
- Allow moving of entire base with tug
- Underwater constructor
- Energy dome
- Attach points on the outside for lights, arms

Straight section, T-Section, 4-Way Juncture

Lets you build your own layout or shape.

Drill Room

Motorized drilling room that you occasionally feed resources to power, and it drills straight down. It extends a drill for 500 meters or so, and just levels the terrain. It doesn’t drill too wide of a hole, or the room would fall in. You can turn it on and off with a switch, and when it’s off, you can exit through a dive hatch and swim down and gather everything. Or give manual controls only so terrain doesn’t change unless you’re nearby.

Observation Dome

Big beautiful glass dome that lets you see all the wonderful lifeforms nearby.

Garage

Big bay for docking a couple Medium or a Large class submarine. Possible add-ons for repairing these subs automatically (with bots?). Allows painting, customizing or special upgrades for subs?

Hydroponics Bay

Lots of windows and planters, with temperature control.

Specimen Capture

Triggerable forcefield that traps creatures inside the walls when something is detected (or you push the button).

Aquarium

Big tank for keeping, watching bigger critters.

Water Electrolysis

Generates oxygen from the water. Keeps station habitable, also lets you refill your tanks. Maybe make smaller version for Sub. <http://en.wikipedia.org/wiki/Electrolysis>

Light Room

Allows you to shine big lights, of whatever color you want, all around you. Movable spotlights that you can shine in any direction and turn on or off.

Observation Center

Monitors that display output from cameras you can stick onto things (on creatures, on ocean bottom, etc.).

Electromagnetic Generator

Pulls metal towards you, or pushes it away.

Phase Room

After a few seconds, teleports everything inside region to another phase room you've built (you can decide to be in or out). Good way to move goods, subs, etc.

Recycler

Turn a submersible or sub back into raw materials after a time.

Library/Archives

Pressure Dome

Current Generator

Witch's Grasp



Add psionic abilities: control, fray, storm, communication?

Other materials

Cobalt

Oxidized deposits of cobalt-rich ferromanganese crust on the flanks and summits of seamounts (submarine mountains), ridges and plateaux, where seafloor currents have swept the ocean floor clear of sediment for millions of years.

Manganese nodule (Purpose: ?)

Purpose: Oxidizing agent, medical uses, strengthens steel, used to make clear glass (otherwise glass is tinted green). [Other facts](#).

http://en.wikipedia.org/wiki/Manganese_nodule

Size of potato, partly or completely buried. Found at any depth (even in lakes) but highest concentrations on vast abyssal plains in the deep ocean between 4,000 and 6,000 m.

Nickel

Lead

Clay

Tar? Coal?

Something found in ice (carbon? bone? rocks.)

Basalt

Purpose: Construction material

Basalt is used in construction (e.g. as building blocks or in the groundwork), making cobblestones (from columnar basalt) and in making statues. Heating and extruding basalt yields stone wool (fibreglass, ceramic fibres and stone wool. Industrial applications of mineral wool include thermal insulation (as both structural insulation and pipe insulation), filtration, soundproofing, and germination of seedlings), an excellent thermal insulator.

Ethylene

Produced by dehydrating ethanol with sulfuric acid.

Ash

(hardened lava)

Quartz

(from crystal biome)

Plummet (req. blueprint)

- High-voltage Battery + 1 Glass + 4 Titanium + 1 Copper + Blueprint

- A small 1-man sub that is designed for high-pressure, and fast vertical movement. It should have a little lateral movement, but would be so slow in that direction you wouldn't want to use it for that. It's really about descending to great depths and ascending again. Of course, if you get out at that depth you will be Battery + 6 Titanium + 3 Copper + 2 Flint + 4 Emery + Blueprint
- Good pressure resistance.
- Left hand is fist, right hand is Drill attachment, which lets you create tunnels and get new resources. Need to occasionally create new Drill for it when it wears out.
- Much higher damage/temperature resistance (suitable for high heat, armored). Lets you explore hot/lava areas and implies some gravity-based navigation.
- Launch and dock it from here

Creature ideas

- Have creatures attracted to items/elements left (now that world is generated as we go)
- Live animals when released, flop around a bit before swimming off (so you can pick them back up). Or kill them in inventory by right-clicking.
- Wearing certain clothes to attract more of an animal (Feather Hat = +birds)
- Creature that "spawns" via bubbling patch on the ground, then erupting out of it

Propulsion ideas

- Propeller (known as "Screw")
- [Water propulsion](#)

Plummet (req. blueprint)

Very fast moving submersible. Can jump straight out of the water, over an island.

Transport subs

Like "Carryalls" from Dune. They can move multiple subs, bathyspheres, etc. Great for relocating when you've scavenged everything in an area.

How to equip multiple items in your outfit slot? RPG character style? Only do this if we want to fill out equipment.

Add stuff to mine from other super-biomes: potash, feldspar, basalt, ice, etc.

Need some endless combinations and variations, not just recipes.

- building bases
- ability to equip a ROV with a tool you built, which they will use automatically (allows you to "scale" and create an army to do your bidding)
- story elements/progression
- ability to have group of creatures following you and protecting you
- transitions between biomes or biome proximity adding variation
- "painting"
- other abilities to affect the visuals in the world: sunlight, Seabase lights illuminating dark areas

- building “towers” or elevators that connect the surface with the bottom. Or building tunnels that connect seabases.
- creating material to add elements back into the world (rock, sand, reefs). Work with Steve/Cory to create list of terrain types (enum used for world-gen).
- more permanent effects that stem from your actions
- connecting worlds between players
- random permutations of biomes that get increasingly crazy and weird
- ability to craft a monolith, statue or structure
- Pyramid with beam of light and/or Pink Floyd reference :)

Configurable Robots

Robots that can be ordered with simple instructions. Robots have a couple “modules” that can be “slotted” with very simple “OnUpdate” behaviors. Create lots of possibilities by creating new robots with new movement/attributes, and also by crafting new modules that change how your robots can work. Robots have innate “personalities”, so we can make voices and dialog for each. Robots have a payload, which is a small storage within them you can add to.

All robots have a “brain”:

- They have a position they try to move to
- They have an action they perform when they get near something
- They have their own innate visibility in the world from their cameras or built-in sonar, etc. but can also be outfit with sensor modules that add more information

Module categories

- Movement (follow me, protect me, explore, search ocean floor, find creature/loot, remote controlled - you pilot manually)
- Action - Sensor (perform on detect X), Timer (perform every Y interval), Remote trigger (when you press a button)
- Action module (what to do when I send a signal to robot - come back to me, play sound, toggle light, perform deep scan, turn off/on, activate robot’s special function (heal, tug, deploy, etc.))

Examples

Help me cut down kelp, crack open limestone, scan for good digging spots, alert me when a Stalker approaches, release element back into wild, find creature with name, take audio/video recording, take screenshot (with map coordinates), place beacon/flare, place teleporter exit.