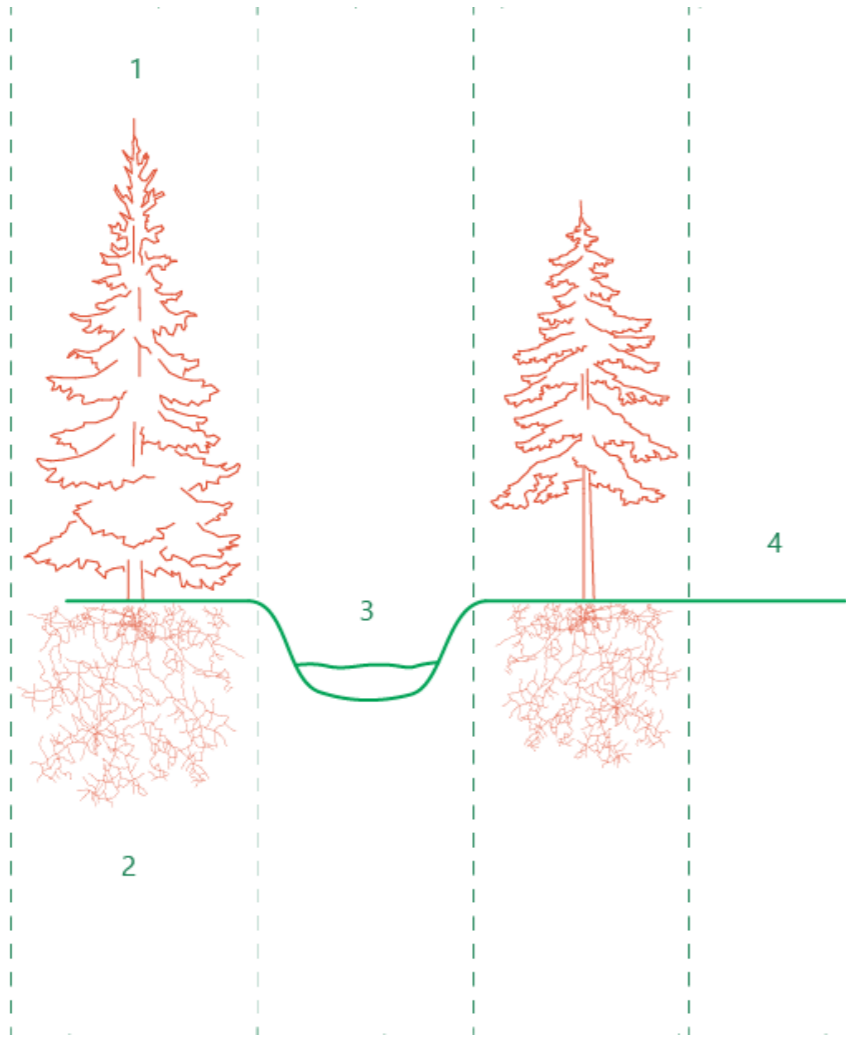


PROTOCOL

INTERVENTIONS FOR TRANSITIONS IN SWEDISH FORESTS

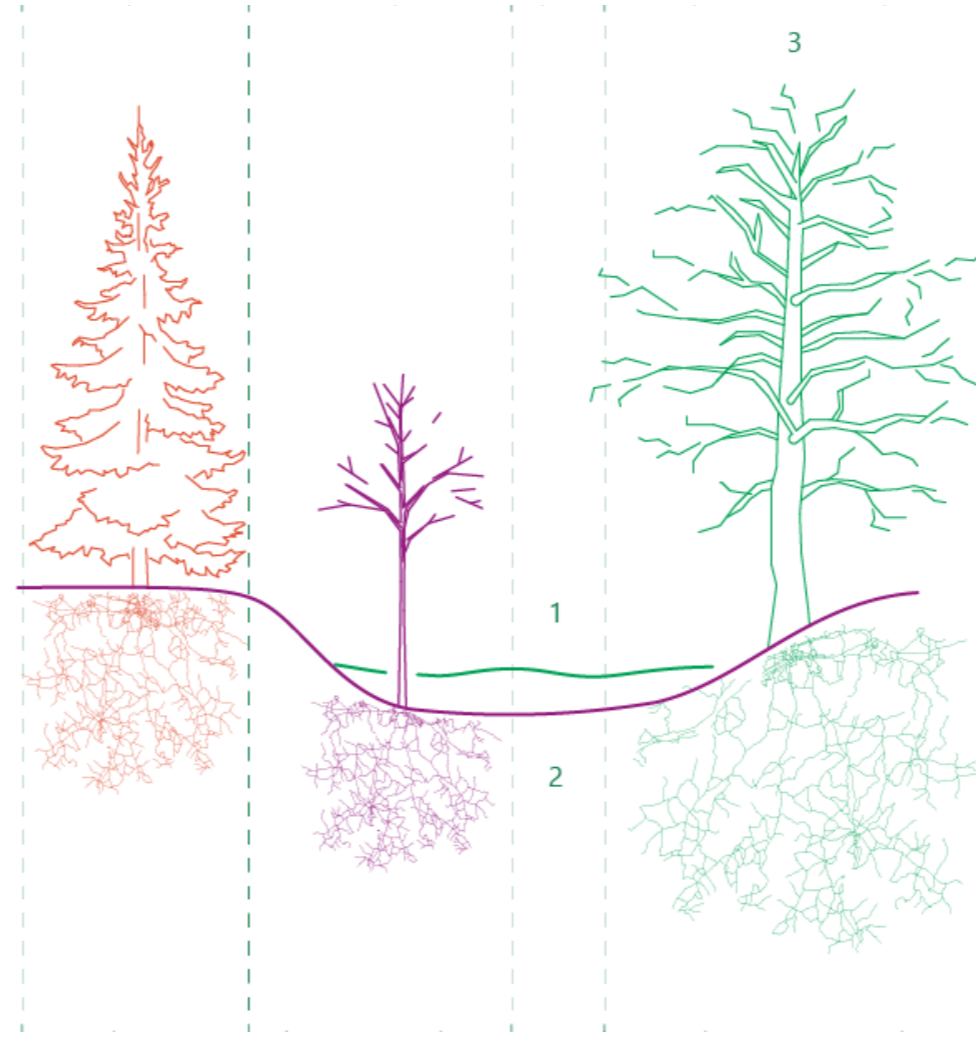
POOL

EXISTING

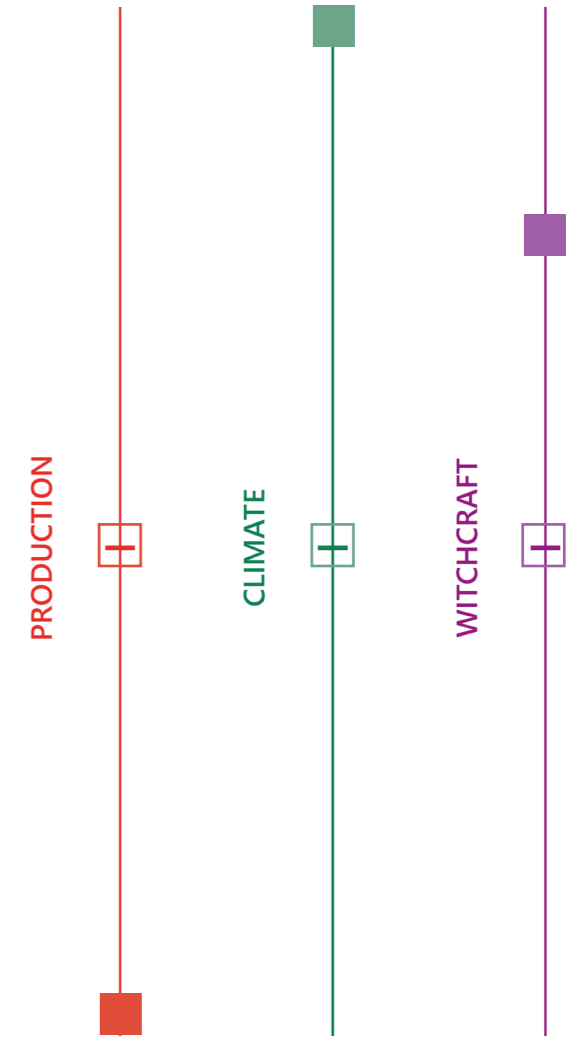


CONIFEROUS TREE (1) WITH SHALLOW ROOT SYSTEMS (2). A DIKE IS ESTABLISHED (3) TO AVOID THE RISK OF ROOT ROT AND EXTERNAL STRESSES AS DROUGHT AND FLOODING. AS A CONSEQUENCE, THE TREES STAND SEPERATED FROM OTHER ECOSYSTEMS (4).

TRANSITION

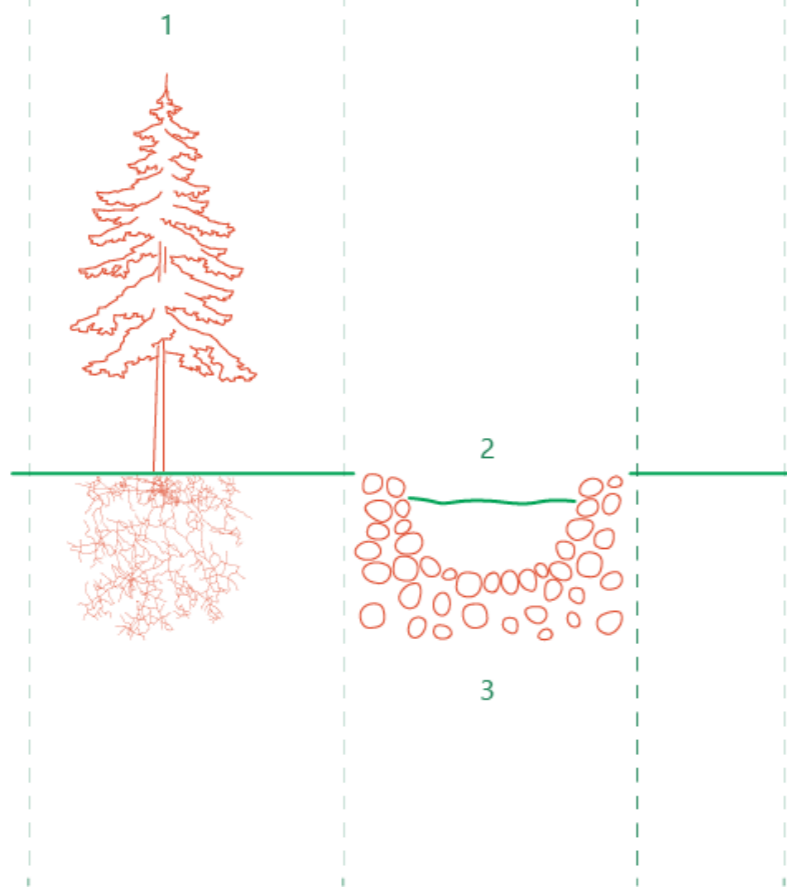


TO RETAIN WATER IN THE SOIL, DIKES ARE FILLED WITH BRANCHES AND RICE. THE WATER FIND NEW WAYS. THE STREAM (1) WILL EXPAND AND CREATE POOLS WHERE WATER TRAVELS SLOWER. IT MEANS SEDIMENTATION OF NITROGEN AND PHOSPHORUS (2). SOME TREES (1) SUPPORT AND PROFIT FROM WATER ACCESS, WHILE OTHERS WILL DIE.



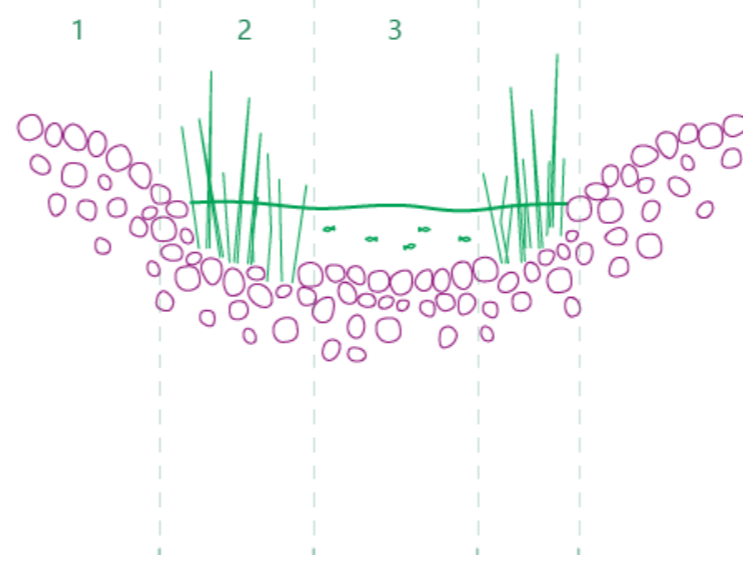
RIFFLES

EXISTING

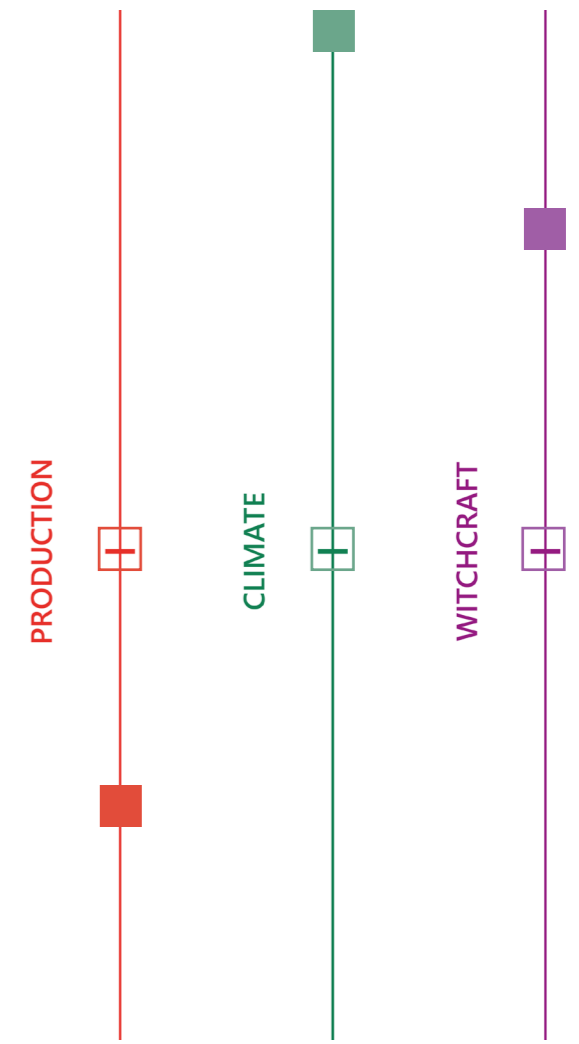


CONIFEROUS TREE (1) NEXT TO A DIKE FILLED WITH WATER (2), MADE OF ROCKS (3).

TRANSITION

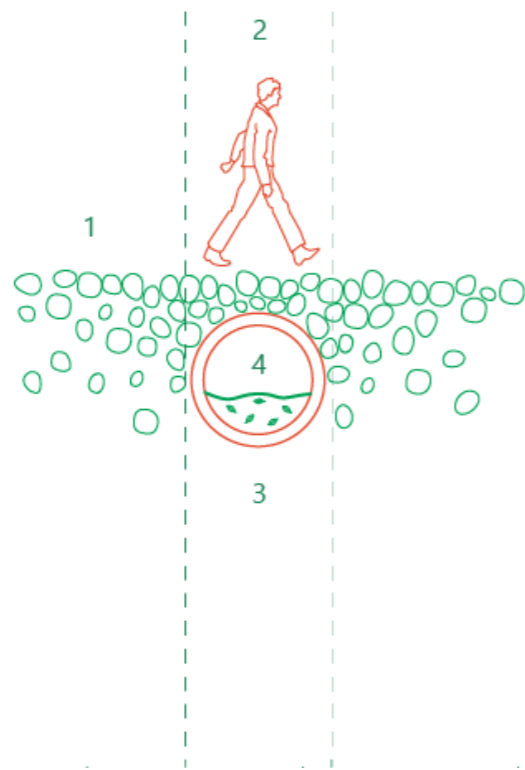


A NARROW PASSAGE MADE OF ROCKS. THE STONE SURFACES (1) OXYGENATE THE WATER AND CREATE CONDITIONS FOR AQUATIC ORGANISMS TO THRIVE - PLANTS (2), FISHES (3) AND INSECTS.



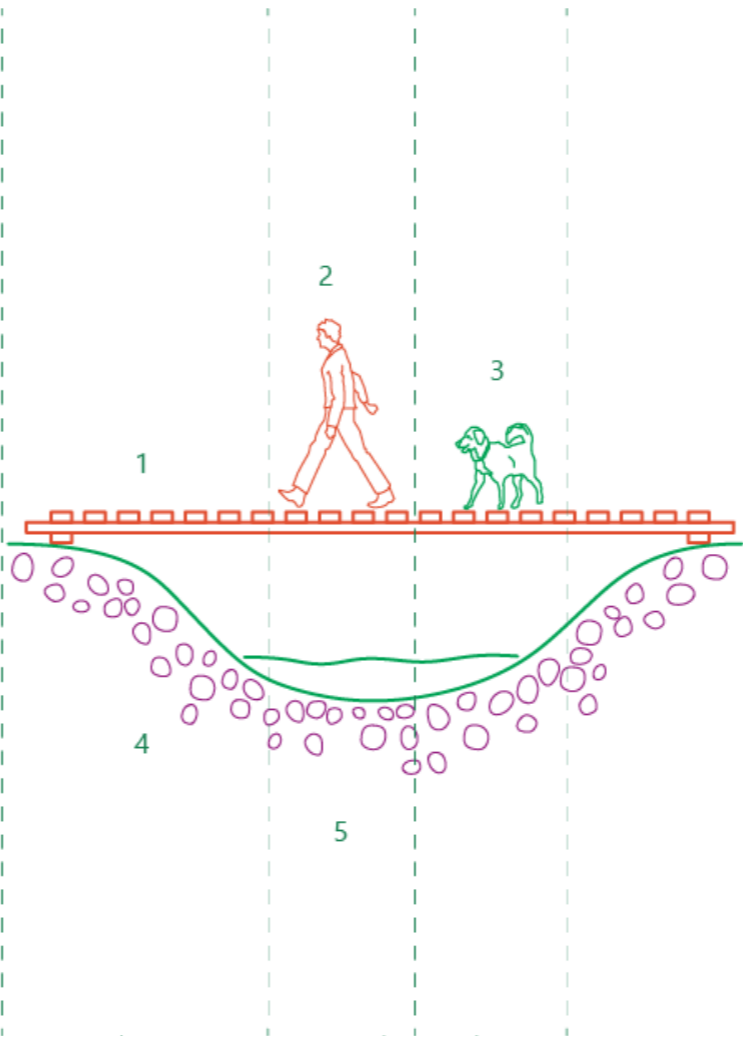
PASSAGE

EXISTING

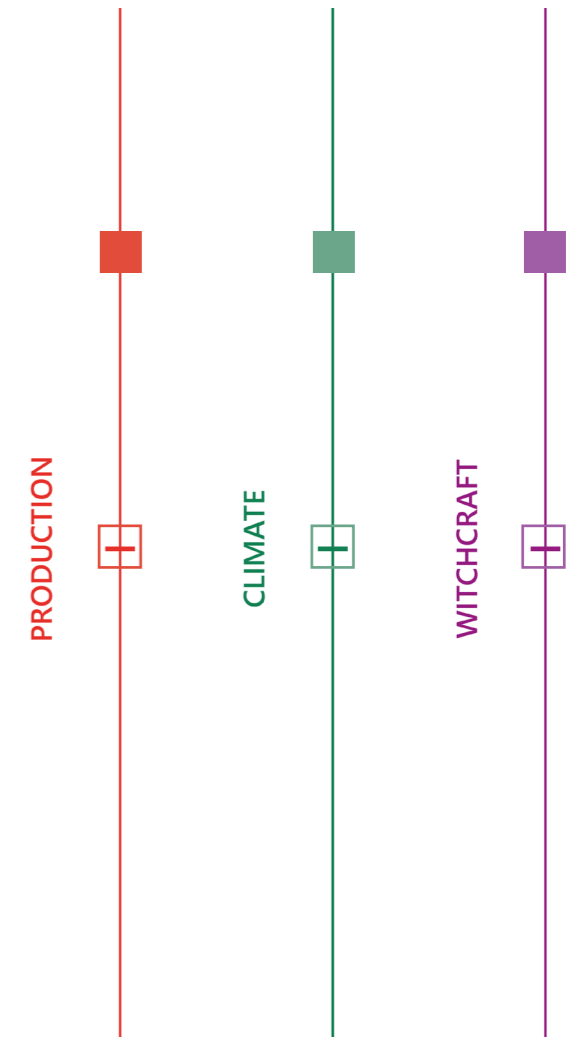


ROADBED OF ROCKS (1), BUILT FOR PASSAGE OVER WATER STREAM (2). PIPE FOR WATER TO RUN THROUGH (3). LIMITED THROUGHPUT OF WATER, SINCE IT IS OFTEN CLOGGED WITH LEAVES AND BRANCHES(4).

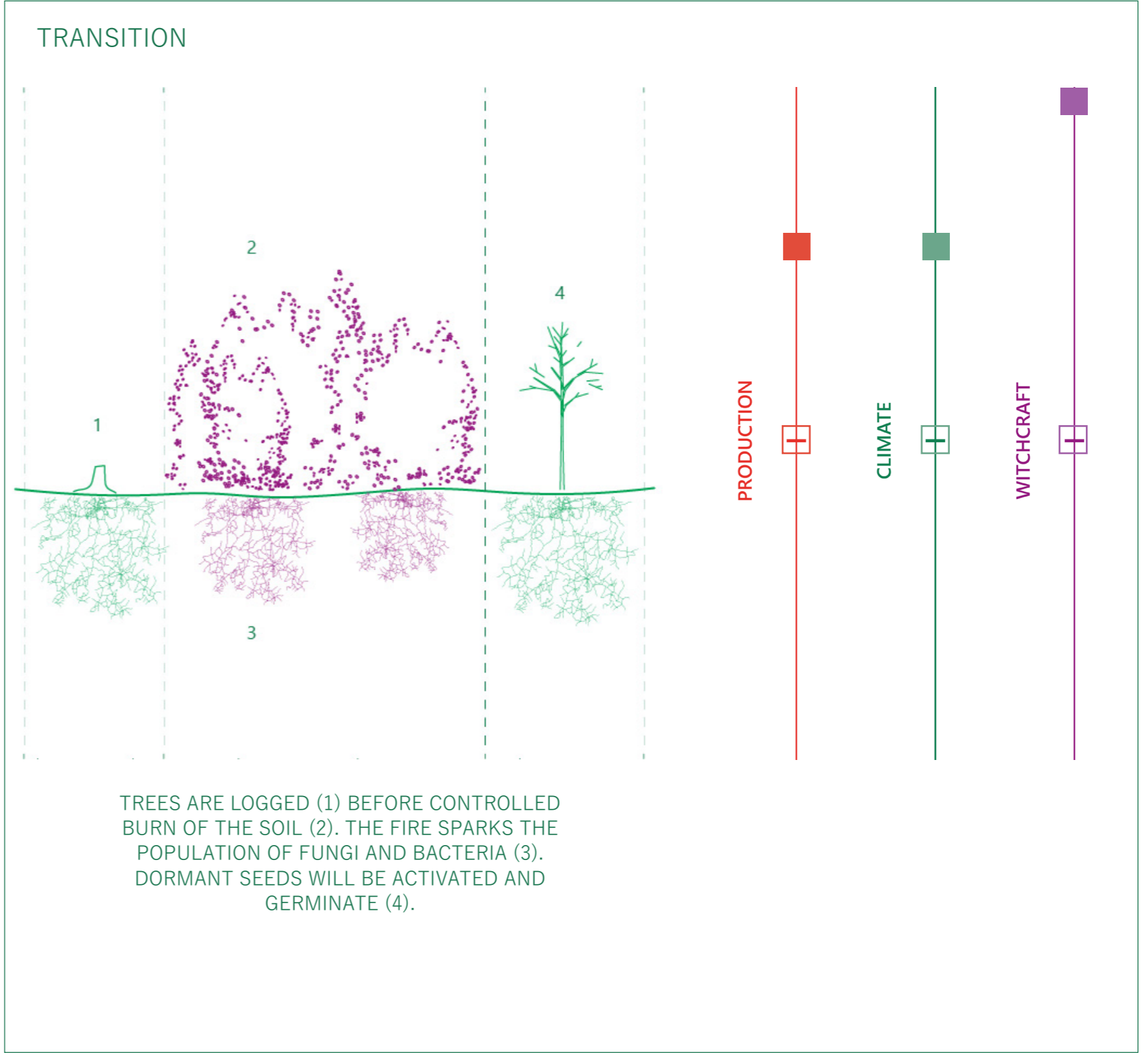
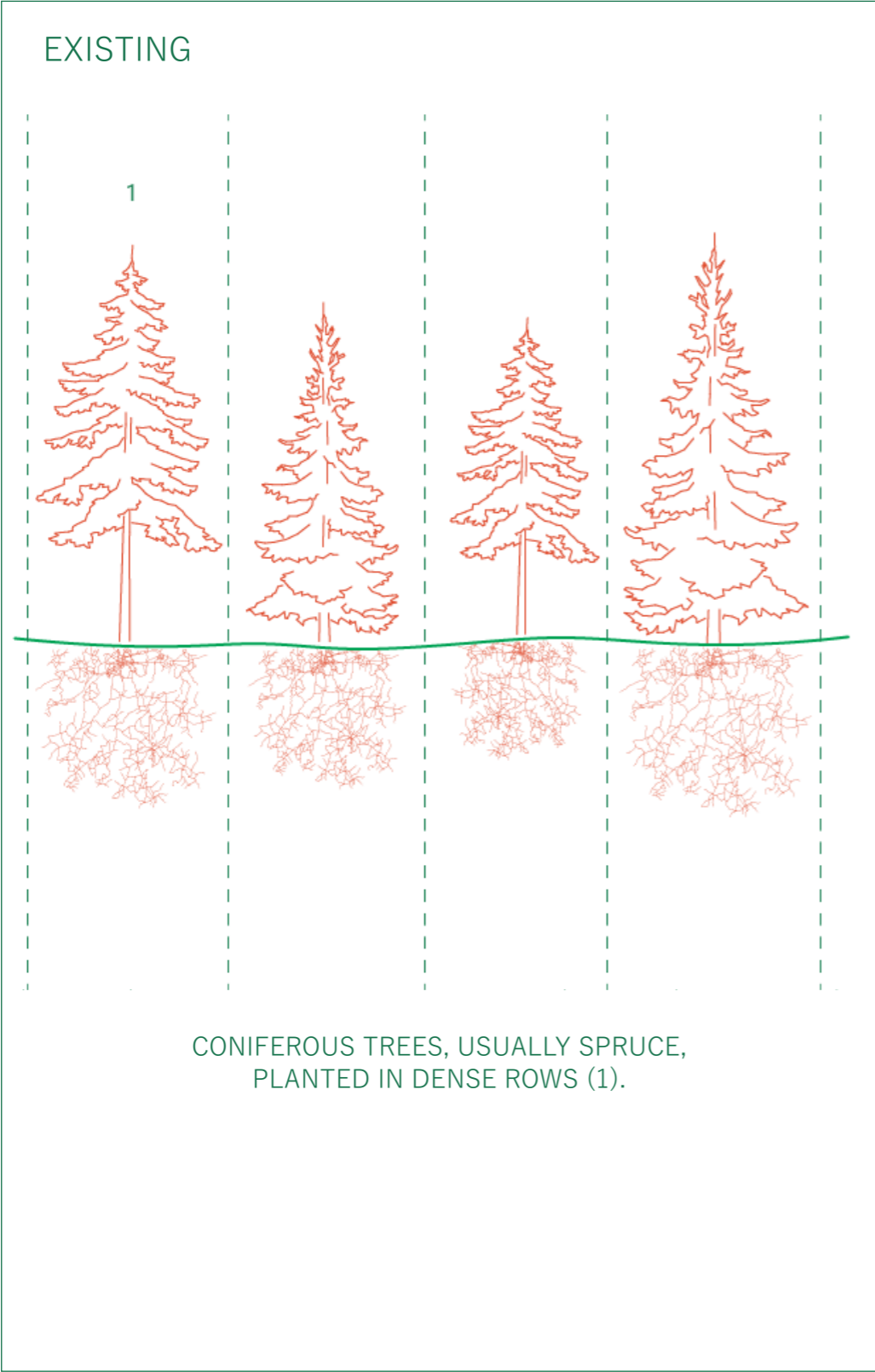
TRANSITION



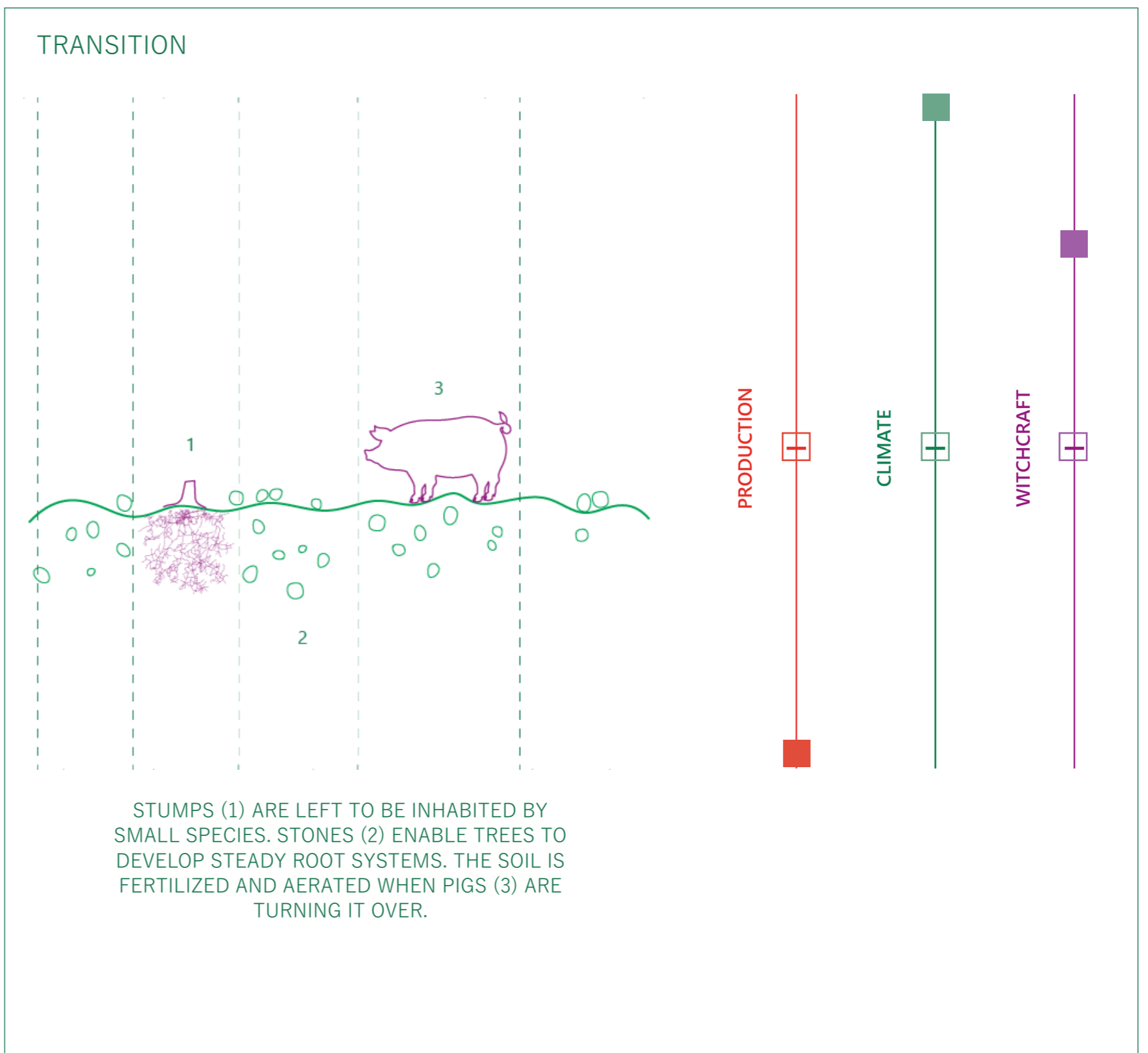
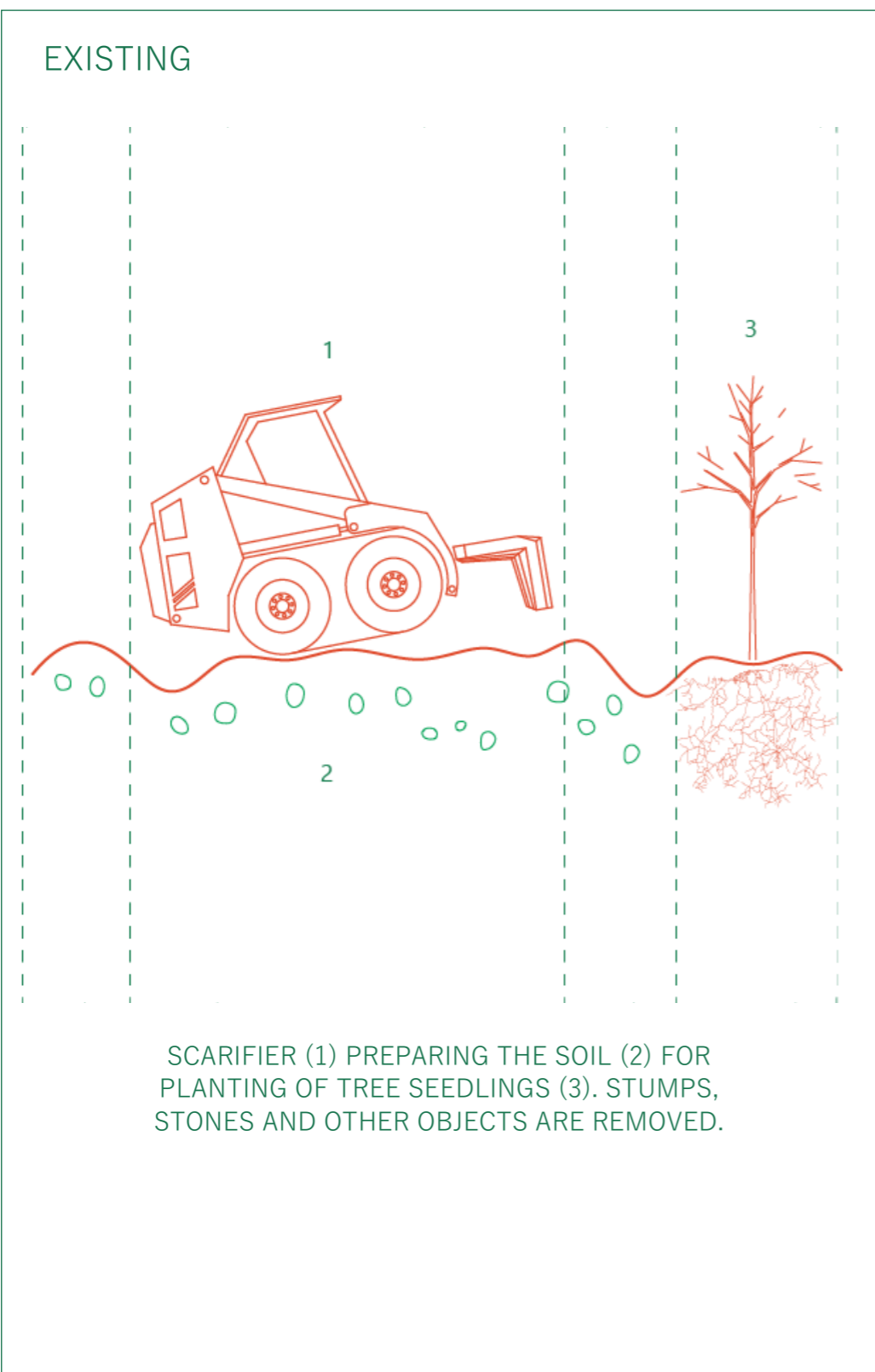
BRIDGE MADE OF WOOD (1), SEPERATED FROM THE STREAM, TO REDUCE POLLUTANT CONCENTRATION IN THE WATER. CROSSING OF VEHICLES, HUMANS (2) AND ANIMALS (3). THE GROUND IS SHAPED (4) TO BROADEN THE STREAM AND ALLOW FOR MORE WATER (5).



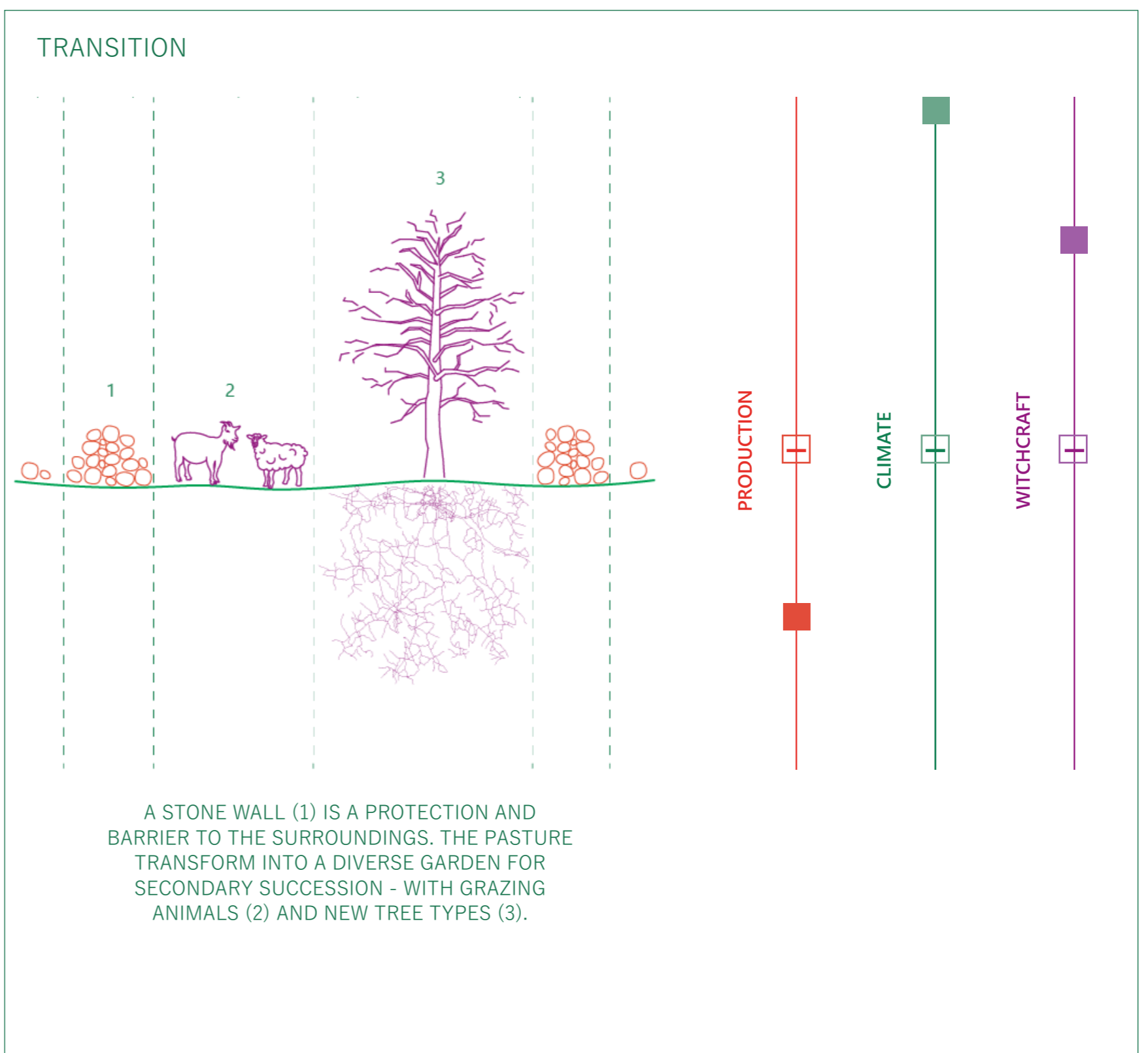
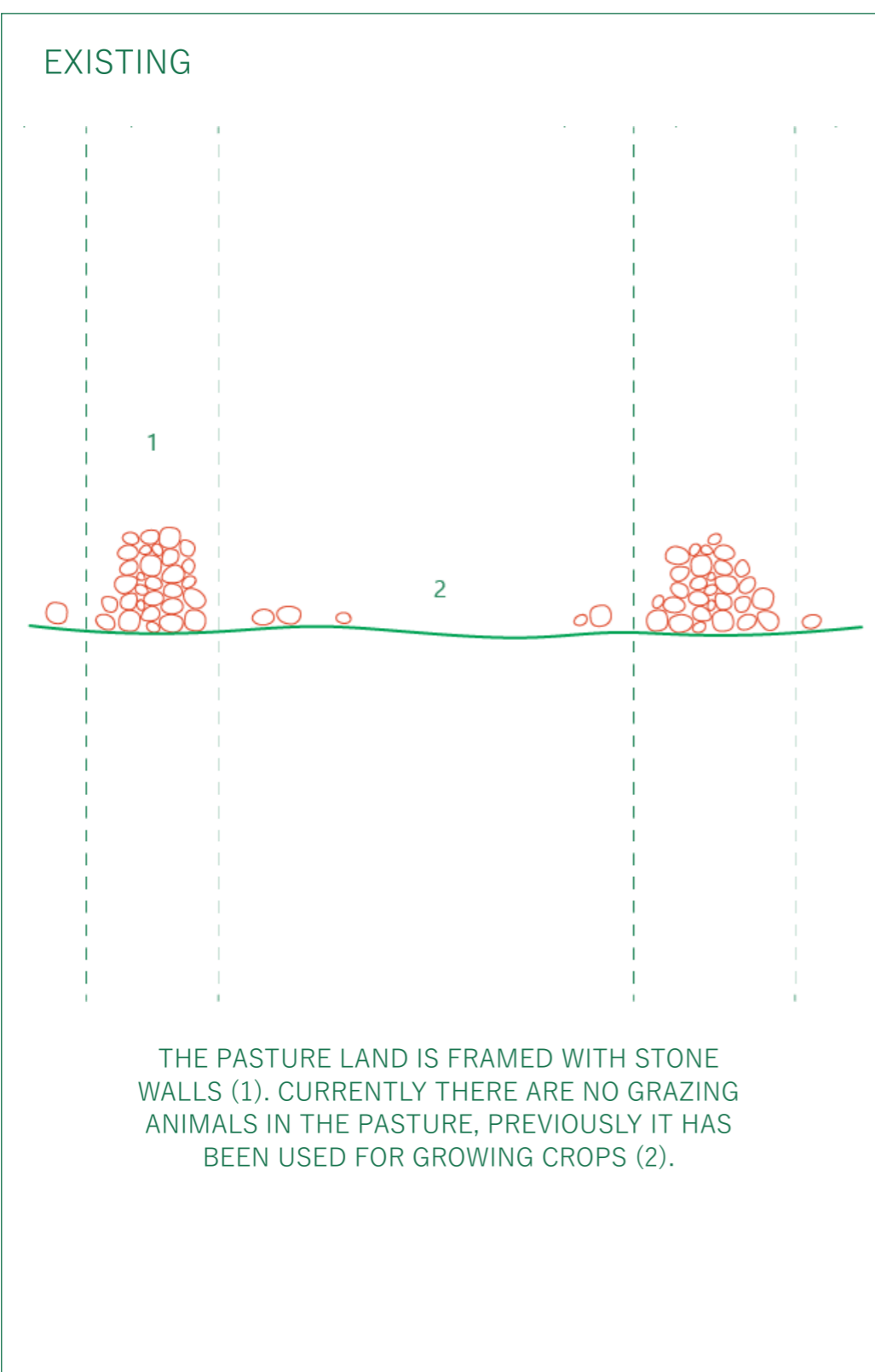
FIRE



PREPARATION



STONES



OPENINGS

EXISTING

1 2

SPRUCE DOMINATED FOREST (1) USUALLY WITH FEW OPENINGS (2) IN THE TREE CANOPY.

TRANSITION

1 2 3 4

OPENING UP THE TREE CANOPY; LETTING LIGHT IN AND INVITING NEW SPECIES, LIKE AN OWL (2). TREE TRUNKS (3) USED FOR SEATING AND GATHERINGS CREATE SPACE FOR HUMANS (4) TO ROAM FREELY.

PRODUCTION CLIMATE WITCHCRAFT

MIXED

EXISTING

1

HOMOGENOUS TREE COMPOSITION OF CONIFEROUS TREES (1).

TRANSITION

1 2 4

INTRODUCING OTHER TREE SPECIES, LIKE A DECIDUOUS TREE (1), AND A MIX - CONIFEROUS DECIDUOUS TREE (2). ALLOWING FOR HUMAN ACTIVITIES, LIKE A TREE HOUSE/ HUNTING TOWER (3). STILL KEEPING SOME CONIFEROUS TREES, TO GROW OLD (4). METHODS OF VETERANISATION ARE USED TO IMITATE STRUCTURES, SUBSTRATES AND MICROCLIMATES OF OLD TREES.

PRODUCTION CLIMATE WITCHCRAFT

AGE

EXISTING

1 2

SPRUCES OF THE SAME AGE (1). A STUMP (2) LEFT AFTER FELLING OF A TREE THAT WAS INFESTED WITH BARK BEETLES.

TRANSITION

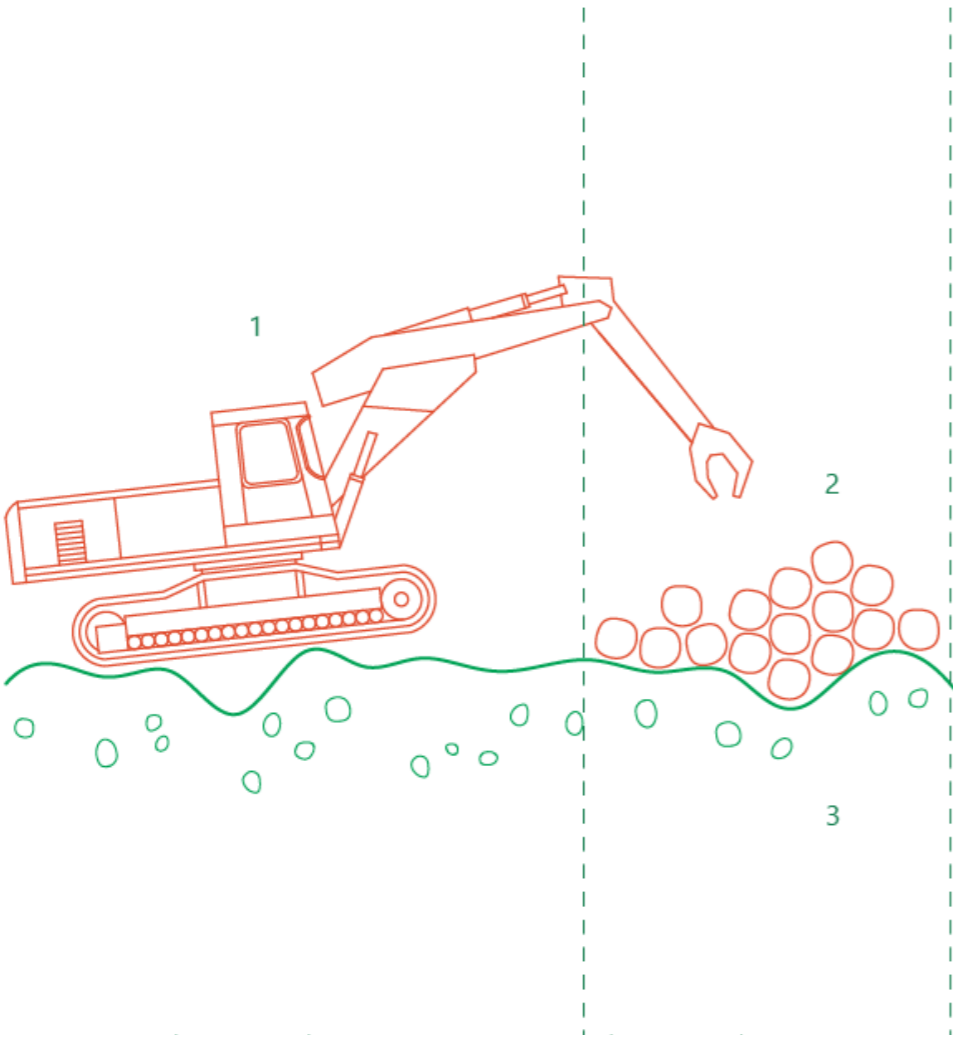
1 2 3 4 5

THE GROWTH OF THE SPRUCE (1) IS OBSERVED AND MEASURED WITH DRONES (2) AND SATELLITES. ALSO THE COLLECTED WOOD AFTER THINNING IS CALCULATED (3), AND THE AMOUNT OF DEAD WOOD (4), WHICH MOULDER INTO THE GROUND, STORING CARBON (5).

PRODUCTION CLIMATE WITCHCRAFT

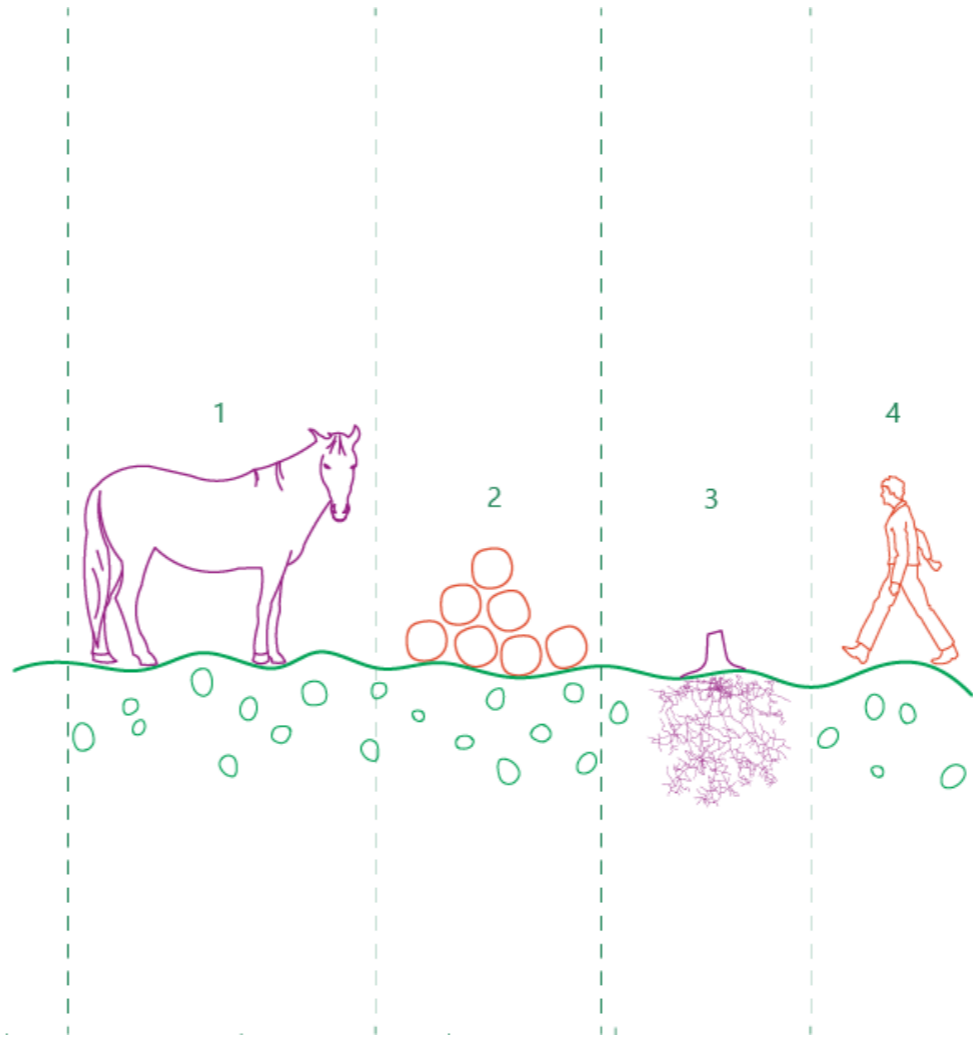
FELLING

EXISTING

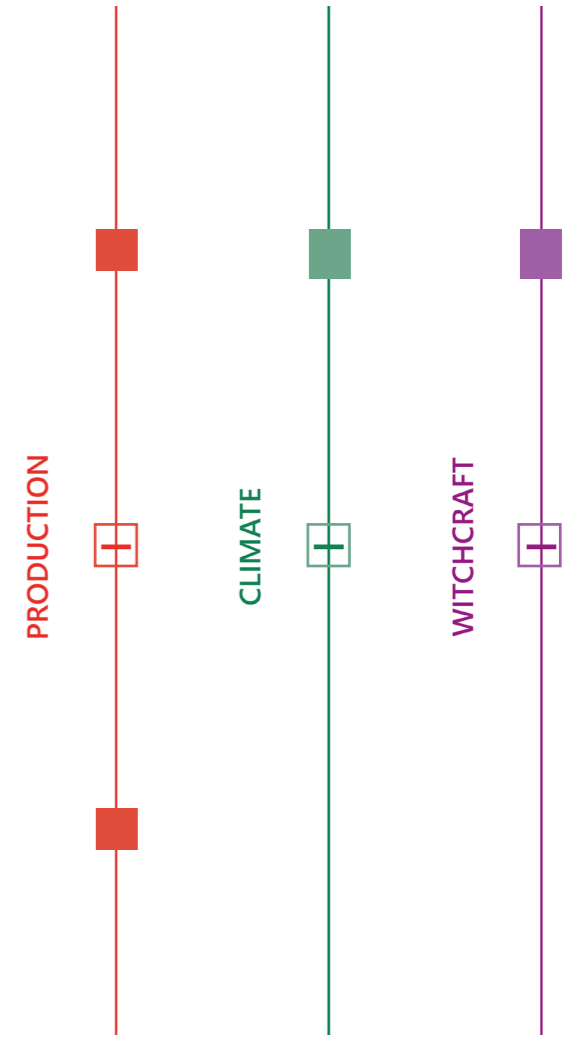


HARVESTER (1) COLLECTING LOGGED TREE TRUNKS (2). IT LEAVES SEVERE WHEEL TRACES ON THE GROUND (3) AND LEADS TO ACIDIFICATION AND CARBON STORAGE LOSS.

TRANSITION

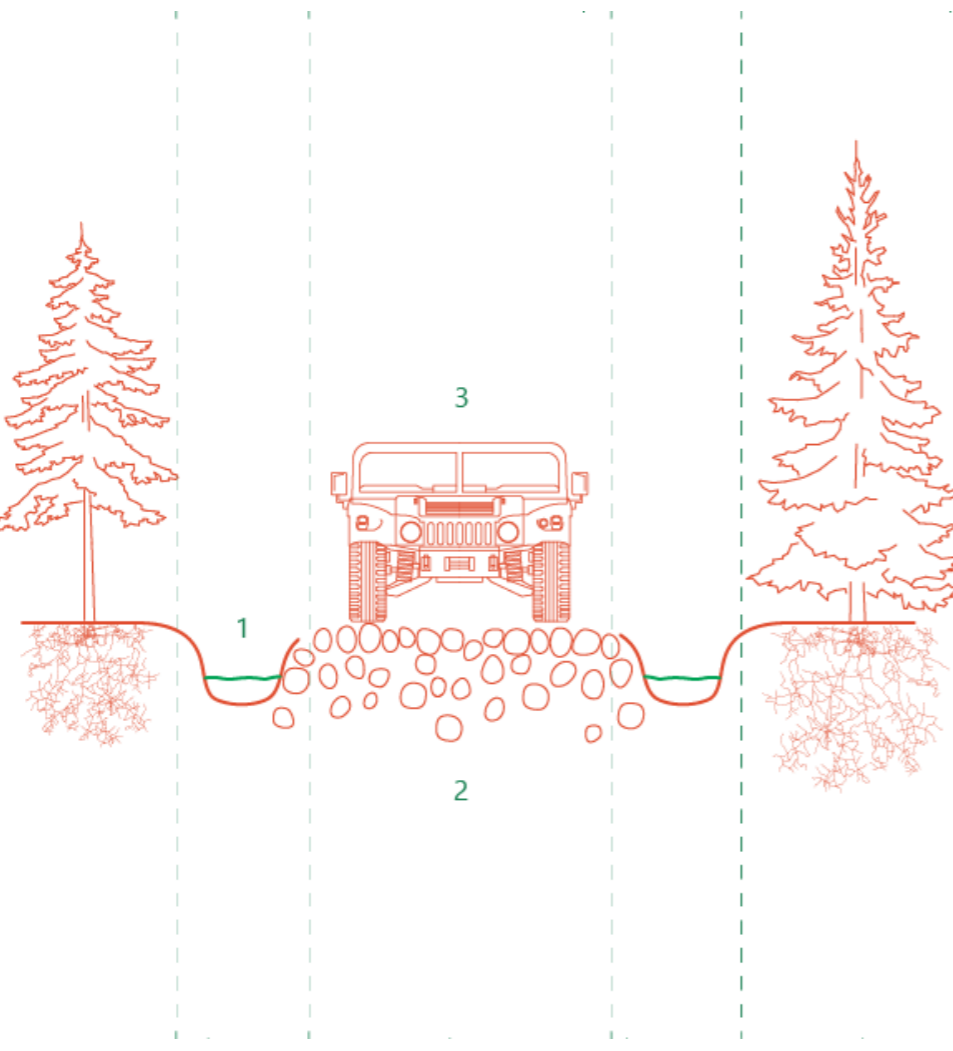


HORSE (1) PULLING THE TIMBER (2) TO A ROAD. STUMPS (3) ARE LEFT AFTER FELLINGS. HUMANS (4) BECOME A MORE ACTIVE PART OF THE LOGGING, USING HAND TOOLS.



DIKES

EXISTING

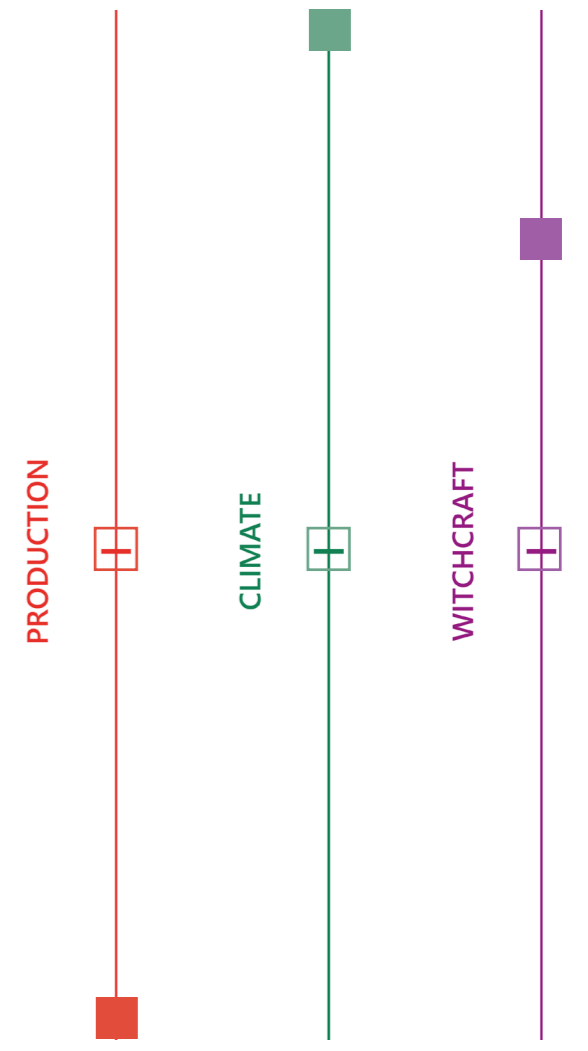


DIKES (1) ON BOTH SIDES OF THE ROAD (2), WHICH IS MADE OF ROCKS AND GRAVEL. THIS IS A SECONDARY TYPE OF ROAD, MAINLY USED FOR CARS (3) WHEN MOVING EQUIPMENT.

TRANSITION

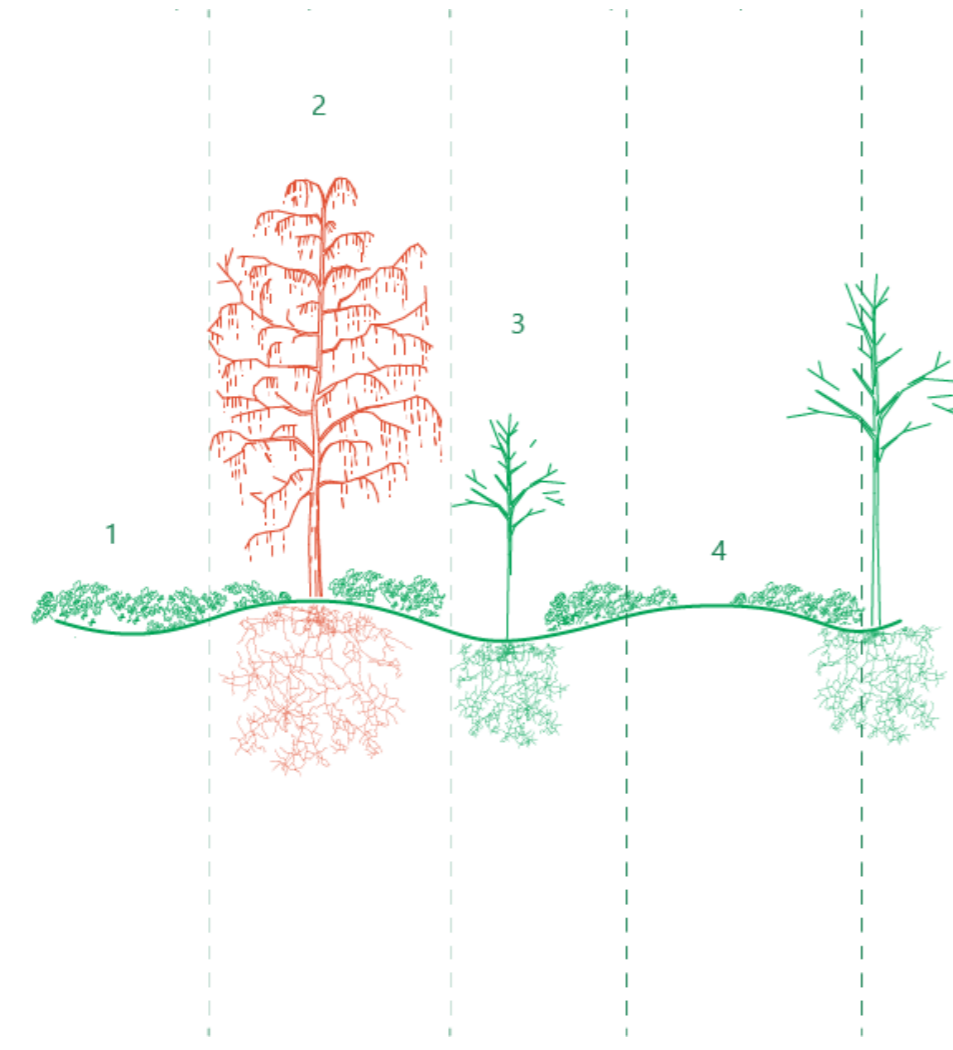


THE DIKES ARE LEVELED WITH THE GROUND (1), CREATING MORE WETLAND SPACE (2). WORK IN THE FOREST IS MADE BY FOOT (3), WALKING ON THE ROCKS (4) OF FORMER CAR ROADS.



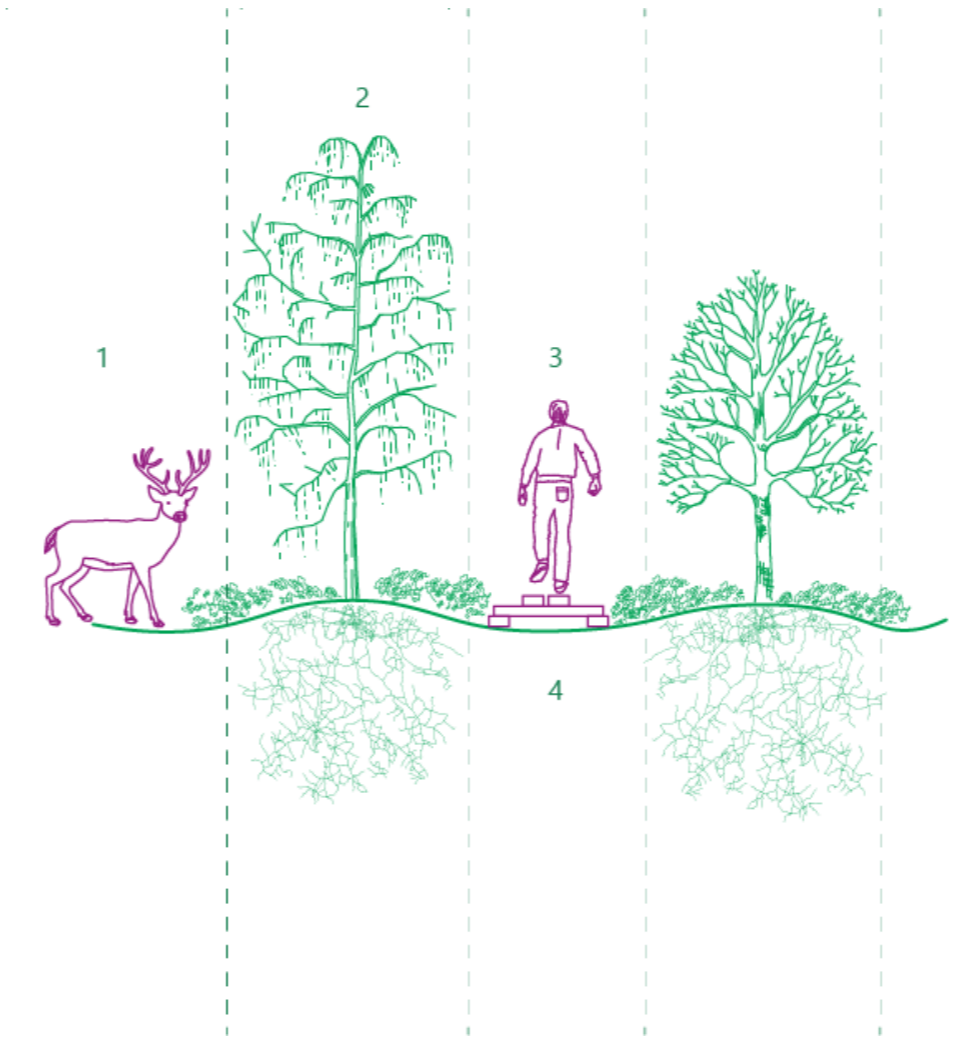
WALK

EXISTING



MOSS AND RICE ON THE WETLAND FLOOR (1). SOME TREES, LIKE PINE (2) AND ALDER (3) GROW IN THIS ENVIRONMENT. PATHWAYS IN THE VEGETATION (4), SINCE HUMANS AND MACHINES LEAVE TRACES IN THE WET GROUND.

TRANSITION



ANIMALS LIKE DEER (1) FIND THEIR WAY TO THE WETLANDS FOR FOOD AND WATER SUPPLY. TREES (2) HAVE A LONGER LIFE CYCLE, FOR CARBON CAPTURE. HUMANS (3) ARE INVITED TO THE AREA, MAINLY ON THE FOOTBRIDGES (4).

