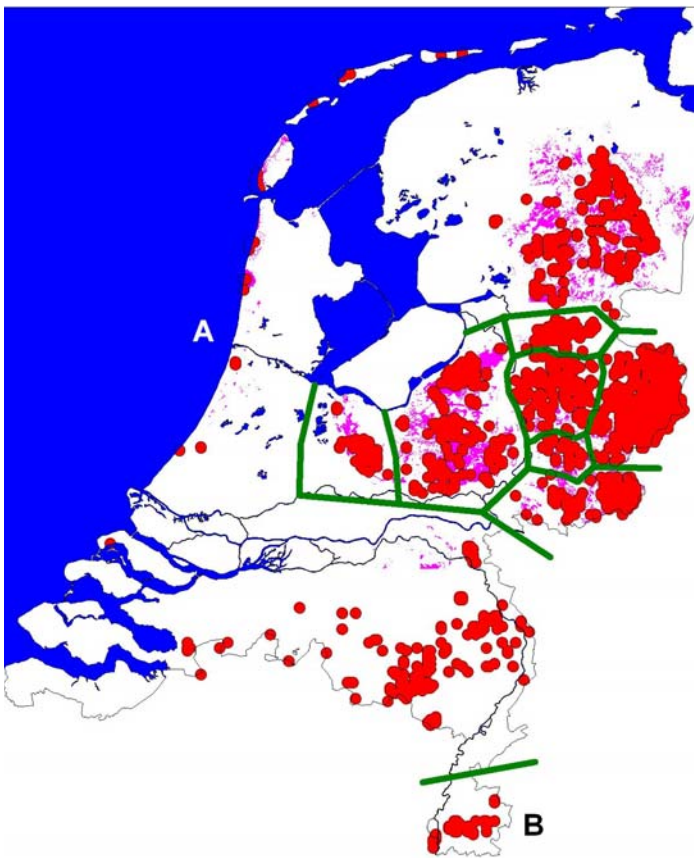


# Genetic diversity and (micro)geographical isolation of Dutch *Juniperus communis* populations

W.J.M. Koopman<sup>1</sup>, A. Adin<sup>1</sup>, W.C. Knol<sup>2</sup> & M.J.M Smulders<sup>1</sup>

## *Juniperus communis*

In the Netherlands, the dioecious species *Juniperus communis* L. (juniper) typically grows on heather fields and (former) sand dunes. During the past centuries, these habitats became fragmented or disappeared. Moreover, rejuvenation in Dutch *J. communis* populations is minimal. As a result, *J. communis* has become an endangered species.



Red : historical distribution (before 1950).

Purple : predicted distribution based on historical land use.

Green : natural barriers (wetlands, river valleys, (former) peat bogs).



## (Micro)geographical isolation

We recently started a study into the genetic diversity and relationships of the surviving *J. communis* populations. Based on historical distribution data, three main regions of occurrence were identified: Coastline (A), South-Limburg (B), and Central-Eastern Netherlands (remaining populations). These regions are characterized by specific soil types. The large majority of Dutch *J. communis* populations occur in the Central-Eastern region, and these were assigned to 9 microgeographical areas. The populations from these areas are isolated by wetlands, river valleys, or (former) peat bogs.

## Genetic diversity

For each of the regions and microgeographical areas, two (sub)populations of approximately 30 individuals will be sampled and examined using AFLP. Intra- and interpopulation genetic diversity will be established in order to determine the amount of genetic variation preserved, and to determine whether *J. communis* forms genetically distinct populations. The results will serve as a basis for programs to protect and restore *Juniperus communis* populations in the Netherlands, and for future international projects.