



GWUA
Groenland Water User Association

Crack Willow Project (*Salix fragilis*)

Crack Willow – *Salix × fragilis* L.

Origin: Native to temperate Europe and western Asia.

Common names: Crack willow, brittle willow.

Legal listing in South Africa

Under the National Environmental Management: Biodiversity Act (NEMBA, Act 10 of 2004) and the Alien and Invasive Species Regulations (2020), crack willow is classified as a controlled invasive species. Though not listed by name on the 2020 schedule, it is regulated under the Conservation of Agricultural Resources Act (CARA) and treated as an invasive riparian tree. Provincial guidelines note it as **Category 2 (requiring permits for restricted cultivation)**, but when found along rivers or wetlands, it must be treated as **Category 1b (compulsory control)**.

Habit & Identification

Medium to large deciduous tree (10–20 m). Leaves alternate, narrow, toothed, dark green above and pale beneath. Branches snap easily with an audible crack (hence the name). Reproduces by wind-dispersed seeds and vegetatively through stem fragments and root suckers.

Ecological Impact

- Forms dense stands that displace native riparian vegetation.
- Alters river morphology by stabilizing banks unnaturally and increasing sedimentation.
- High water use reduces streamflow and groundwater recharge.
- Modifies nutrient cycling, light regimes, and aquatic habitat.
- Reduces the biodiversity of plants, invertebrates, fish, and birds dependent on native riparian ecosystems.

Control & Management

Prevention: Avoid planting or transporting cuttings near waterways.

Mechanical: Hand-pull seedlings; cut-stump or ring-bark larger trees; remove root systems.

Chemical: Apply systemic herbicide to freshly cut stumps or use stem-injection; follow label and safety guidelines.

Follow-up: Monitor for 3–5 years for regrowth; replant native riparian vegetation.

Disposal: Never leave branches in water — fragments easily root downstream.

Environmental Legislation

Regulated under the **National Environmental Management: Biodiversity Act (10 of 2004)** and **Alien and Invasive Species Regulations (2020)**. Management obligations apply to landowners and users. Relevant supporting legislation includes the **Conservation of Agricultural Resources Act (43 of 1983)**. Offences may apply for failing to control listed species on one's property.

Quick Field Checklist

- ✓ Avoid planting or keeping crack willow near water.
- ✓ Prioritise upstream control to reduce spread.
- ✓ Treat cut stumps immediately after felling.
- ✓ Remove debris from river channels.
- ✓ Replant cleared areas with native riparian species.
- ✓ Coordinate efforts across catchments for lasting control.

References: SANBI Invasive Species Programme, CABI Datasheet, Henderson (2019) *Invasive Alien Plants of South Africa*, CapeNature guidance (2022).

Timothy Jack
Project Co-ordinator

Crack Willow Invasion along the Palmetto River





Alien Clearing Teams hard at work removing the trees, treating stumps with herbicide.





Slowly but surely river is becoming visible again!

Crack Willow Experiment

Phase 1 & 2

Legend

