

## **TRAVESTON CROSSING**

### **Riverbank Planting Project**

*Welcome and thank-you for joining us in the celebration planting at Traveston Crossing. We hope you will enjoy the day by the river learning about river bank stabilization. We plan to plant from 11am –12.30pm, have a sausage sizzle for lunch and then plant some more in the afternoon if required. It is a short walk on the west bank upstream of Traveston Crossing bridge to the community planting completed in 2001. It is a great example of what can be achieved within 10 years.*

Riverbank erosion affects all members of the community. Erosion contributes to declining water quality in our streams, increases water treatment costs, and can result in the loss of quality agricultural land, property and community infrastructure such as bridges. Additionally, sediment from failing riverbanks can fill up pools in rivers, impacting on farmers who wish to irrigate, reducing habitat for fish and other aquatic organisms and particularly dispersive clays have even been shown to have serious impact on seagrass and dugong populations that feed on seagrass in Hervey Bay.

The re-establishment of native riparian vegetation is an effective solution to the problems of bank instability. These plants reduce the flow energy, increase bank strength through the binding of soil by root systems, reduces sediment loads by restraining and filtering soil particles, reduces the hydraulic load of banks by using soil water, intercepts heavy rainfall and provides organic matter necessary to maintain soil structure.

Research has now shown that native riparian plants provide a large amount of food for aquatic fauna. Fallen logs trap food, provide shelter and breeding sites. Shading of our streams are very important for maintaining low water temperatures and regulating light for control of aquatic plant growth.

#### **Details about the Traveston Crossing Site:**

As this site is on the outside of the river bend, it is subjected to very fast flowing water during flood events. We must expect that there will be some damage to our plantings in the future depending on how established our plants get before the next big flood.

However the native riparian plants that have been selected for planting are adapted to survive floods. Some will be flexible, lay over and re-shoot from the stem. Some like the Weeping Lilly Pilly (*Waterhousea floribunda*) will sucker and produce more stems to

make it stable. The River She-oak is a pioneer species and is quick to replace itself by surviving mother trees releasing seed soon after a flood.

***The objective of this planting is to establish native riparian plants that will withstand flooding, reduce bank erosion, provide perch sites to attract birds that will bring seed of other plant species into the area, provide shade and inputs to the stream food web, and shade out many of the weeds within 2 years to minimise weed maintenance.***

#### **Planting Technique:**

Because some of this site can get quite dry, the plants require extra attention by incorporating a handful of rain saver gel in the soil at the base of the planting hole, forming a small moat below the plant to catch water and using any nearby weeds as mulch. **Watering:** Each plant will need at least a litre of water at planting.

#### **Native Plant Species for Stream Bank Revegetation:**

##### **Toe of the bank:**

Mat Rush (*Lomandra longifolia*) and Weeping Bottlebrush (*Callistemon viminalis*) will be planted densely at the toe of the bank (about 1 m apart).

**Mat Rush (*Lomandra longifolia*):** A plant with strap-like leaves. The flowers were eaten by Aborigines and the strong fibrous leaves used to make net bags. The white succulent leaf bases are also pleasant to eat (choose new leaves as the old ones are impossible to pull out). Very useful bank protection species and good plant for the stream edge. Susceptible to grazing damage by cattle.

**Weeping Bottlebrush (*Callistemon viminalis*):** Particularly good plant for the stream edge and well known for its ability to stabilise eroding banks. Good edge plant. The flowers have bright red filaments. Susceptible to grazing by cattle.

##### **Mid and Upper Bank:**

The main species planted in the mid and upper bank will be Black Tea Tree (*Melaleuca bracteata*), River She-oak (*Casuarina cunninghamiana*), Mat Rush (*Lomandra longifolia*) with a few Forest Red Gum (*Eucalyptus tereticornis*), Swamp Box (*Lophostemon suaveolens*) and planted about 2 m apart. Some of this area will also be direct seeded using seed of Mat Rush, River Sheoak and Black Bean (*Castanospermum australe*).

**Black Tea Tree (*Melaleuca bracteata*):** The leaves contain essential oils and are easily identified by crushing a leaf. It is an excellent shelter tree and has shown good potential for erosion control on stream banks. The free-seeding and root suckering habit of this

species combined with its tolerance of a wide range of soil conditions make it a good colonizing plant.

**River She-oak** (*Casuarina cunninghamiana*): A pioneer species which is a good shelter tree for other vegetation in earlier stages. The leaves are actually branchlets with 8-10 leaf-teeth.

### **Frost Sensitive Species:**

There will be a planting in September for the species not tolerant of frosts such as Weeping Lilly Pilly (*Water housia floribunda*), Sandpaper Fig (*Ficus coronata*), Brush Cherry (*Syzygium australe*), *Ficus obliqua* (small-leaved fig), Brown Currajong (*Commersonia bartramia*), Red Kamala (*Mallotus philippensis*) and Three veined Cryptocarya (*Cryptocarya triplinervis*). A few fast growing plants such as Bumpy Ash (*Flindersia schottiana*), Silky Oak (*Grevillea robusta*) and Blue Quandong (*Elaeocarpus grandis*) will be trialled up-slope at 7m spacing to encourage rapid canopy development.

### **Understorey Plants:**

Many true understorey plants such as the **Native Wandering Jew** (*Commelina cyanea*) and various ferns are shade dependent and often naturally colonize when the main canopy has established and created a dark understorey environment in about 2 years time.

**Native Wandering Jew** (*Commelina cyanea*): A weak creeping herb with fragile blue flowers. It is similar to the weed Wandering Jew but always has smaller, less crowded leaves. The young shoots can be cooked as a green vegetable.

### **Weeds that had taken over the site before spraying included:**

**Caster Oil Plant** (*Ricinus communis*): A tall robust weed to 3 m high with broad palmate leaves and milky sap. Introduced from Asia or Africa. The fruit contains castor oil. The plant also contains ricin, a highly poisonous substance, once used by Bulgarian KGB agents in assassinations!

**Tropical Legumes (eg Siratro, Desmodium)**: Aggressive vines introduced for stock grazing that will easily smother young seedlings and cover over entire trees.

**Chinese Elm** : An introduced deciduous tree that is spreading rapidly in the Mary Catchment. Seed is spread by birds.

**Camphor Laurel**: An introduced tree that is spreading rapidly in the Mary Catchment. Seed is spread by birds. Leaves have been found to be toxic to aquatic life.

**Grass weeds** included Johnson Grass and Green Panic.

Information sourced from Management of River and Creek Bank Plantings by Simon O'Donnell June 1998 and Rivernote Stream Bank Planting Guidelines and Hints.