

# Environmental Leaders Fund (High School Example)

## Project information

**Project name:**

School Environmental Hub

**Estimated start / finish:**

Start date December 2023. - Finish date April 2024

**Where project is taking place:**

School

## Project summary

**Project summary:**

The purpose of this project is to develop a nursery at School. Situated beside the Science area this nursery will become an Environmental hub within the school and support two new courses to be offered to students in 2024, Environmental Life Science and Agriculture/Horticulture. The Phase one objective of this project is to provide a shade house where students can grow a variety of native and food plants. The Environmental Life Science course has been designed to provide engagement by students in a range of authentic contexts with a focus on improving biodiversity and protecting local waterways. Students will be encouraged to develop deeper connections with the Taiao, and kaitiakitanga by participating in on-going environmental projects within the school and local community. Plants grown in the shade house will support environmental projects that are currently being undertaken in the school. Examples of these projects are growing pingao (*Desmoschoenus spiralis*) by the rōopu for stabilisation at the beach, growing native sedges and grasses for riparian planting along the stream with the support of “Friends of the Stream”. Producing seedlings for planting in existing kai gardens on the school grounds.

## Project funding

Provide a detailed breakdown of what this funding will cover - *please note that quotes are no longer required.*

**Funding breakdown:**

\$3000.00 building materials for shade house. Additional funding to be provided from Science Department budget.

**Total amount applied for:**

\$3000.00

## General:

**How does this project consider te ao Māori:**

Te ao Māori emphasises the importance of relationships between nature and people. As an environmental hub within the school, the nursery will be a place for students to engage with taonga tuku iho, mātauranga o te taiao (traditional environmental knowledge) and mahinga kai (cultivation). Students will actively participate in kaitiakitanga methodologies. Consultation with iwi, as kaitiaki of their rohe, ensures projects undertaken are compatible with the Environmental Management Plan. Plants grown in the shade house will support projects such as growing pingao (*Desmoschoenus spiralis*) by rōopu for dune stabilisation at location. Native sedges and grasses grown by students in the shade house will be used for riparian planting, protecting the awa (life blood of Papatūānuku). Seedlings grown for planting in existing kai gardens allows students to learn methods of planting and cultivation from a mātauranga Maori perspective. We are committed to work with iwi in kaitiakitanga

of the rohe. Any investigating/ researching/ doing/ data collection could be co-constructed, with information and findings shared in reciprocity.

**How does this project involve the community:**

The project will be co-constructed between, teachers, students, maintenance staff, under the guidance of a qualified builder. Plants grown in the nursery by students will directly support other community efforts. The native grasses (*Carax secta*) grown by students will be used in riparian planting along the section of the stream at the bottom of the park in collaboration with community members. The shade house will be the first phase in a bigger project to create a hub to support and enhance the many environmental projects that rōopu in the school are undertaking. These undertakings will not only involve the wider school community but also community groups that we have established relationships with.

## Future thinking (Max 400 words)

**Future thinking (replication and future plans):**

Can the project be replicated by other schools?

Once the nursery is constructed students can use their learning experiences, growing native grasses/sedge/pingao/native trees/kai seedlings to inform other schools. This might take the form of a 'How to cultivate growing native grasses/sedges/pingao/native trees/kai seedlings' information sheets, You Tube video. Students have proven experience sharing their learning as tuakana teina. We can document our journey constructing the shade house so that other schools can learn from our experiences.

**Future plans for project?**

Phase one of the project, construction of a shade house will enable students to grow and plant native species. Future plans include growing pingao for sand dune restoration, growing grass and sedge for riparian planting. Students will conduct a biodiversity audit of the native plants currently growing on the school grounds and explore how they can improve this diversity by growing native plant species. Kai seedlings grown by Agr-Hort students using the facility can be planted in raised garden beds and food distributed to whanau. Students have purchased 12 eDNA kits through fund raising which will be used to sample the stream and river in March 2024. This will give the community, base line data of what taonga are present in the two waterways and give an indication of their health. Students intend to sample the two rivers in the future to gain comparative data that will indicate if environmental efforts along the awa have improved their mauri (health and biodiversity). As the nursery grows permaculture practises will be integrated. We have already introduced a successful composting system.

## Fund Criteria (Max 400 words)

- Improving Biodiversity
- Processing waste onsite
- Growing Kai
- Exploring alternative energy and reducing emissions
- Protecting and preserving water

**How project meets fund criteria:**

Growing plants for riparian planting along the local stream. Riparian planting will serve to; increase biodiversity along the stream by re-establishing native grasses along the stream margin where currently introduced weed species grow. Sedges and native grasses also provide habitat for native fish and invertebrates. Riparian planting of grass species in areas that are regularly flooded beside the stream will mitigate erosion and sedimentation of the stream bed, this especially relevant as we experience more large rain events due to climate change that will potentially wash away large native

trees planted close to the stream margin, causing more erosion and sedimentation. Riparian planting of grasses and sedges provide platforms for native fish species to spawn in, helping to maintain biodiversity. Riparian planting will also help filter runoff, reducing nitrates and phosphates entering the stream and therefore help prevent the growth of algae that can cause eutrophication of waterways. It also provides leaf litter, important food for some aquatic animals.

Growing seedlings for existing junior kai gardens. The shade house will allow us to close the loop between composting and growing food in the junior kai gardens. Currently seedlings are purchased in punnets from Garden Centres and students transplant these into raised gardens. A shade house will provide the facility for seeds to be germinated, reducing greenhouse gases associated with transporting seedlings from growers to suppliers, to the school.

Planting native trees grown in the shade house will increase biodiversity on the school grounds and sequester carbon from the atmosphere. A biodiversity audit of the trees on the school grounds will establish if we have the range of native trees to provide habitat and food for the bird life and invertebrate life. Trees will be grown and planted accordingly.