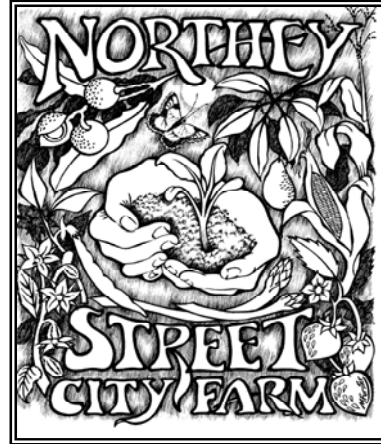


# Northey Street City Farm

## Water Sustainability Policy

### October 2005



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#### 1. NSCF Philosophy on Water

Water is precious. It is the most important manageable resource in the cycle of life. Its absence or poor management is the most critical limiting factor in the maintenance of productive systems. Thus conservation and sustainable use of water must be paramount in all our actions.

#### 2. NSCF Water Mission Statement

For NSCF to be a model of conservation and sustainable use of water for gardeners and householders in an urban environment.

#### 3. Promoting Water Sustainability

NSCF is committed to educating the wider community on issues of urban sustainability. NSCF aims to model best practice technologies and demonstrations in sustainability. NSCF will implement a multi-faceted approach to promote water conservation and sustainable water use practices and technologies to all water users and visitors to NSCF. Our educational programs will raise awareness of water recycling, water conservation, water harvesting, water re-use and conservation of water catchments.

##### 3.1 The groups we will target in our education include:

- 1) School tour groups
- 2) Weekly tour visitors
- 3) Visitors to the Saturday Organic Farmers Market
- 4) Regular volunteers
- 5) Paid employees and contractors
- 6) Special interest tour groups
- 7) Workshop participants
- 8) Visitors that pass through
- 9) WFD and CJP participants

##### 3.2 Methods of delivering and promoting water conservation and sustainable use:

- 1) Train all paid employees and regular volunteers in the procedures required to implement water sustainability at NSCF.
- 2) Design a school tour module that focuses on sustainable water use and Water Catchment Awareness and uses practical examples on NSCF as demonstrations.
- 3) Develop and install an informative, signed Water Trail that leads visitors to NSCF along a journey of water saving techniques, strategies and technologies implemented at the farm.
- 4) Develop a free Water Trail brochure that visitors can use as a guide when visiting the site. The brochure will include information on where to purchase water saving technologies, how to learn more about water saving and easy steps to save water in your home and gardens. It will also map the site of NSCF and

direct people through the water saving technologies and processes adopted at the farm.

- 5) Employ a water sustainability officer to implement the Water Policy, maintain and update water saving technologies, devise education programs
- 6) Include water conservation education in volunteer, WFD and CJP inductions.
- 7) Run water conservation workshops for gardeners and householders as part of our weekend community education programs
- 8) Run water conservation and Water Catchment Awareness units as part of permaculture, organic gardener and CTP education courses held at NSCF.
- 9) Conduct yearly audits of water use on the farm through monitoring and recording water meters monthly and promoting these figures on charts on NSCF notice boards, in newsletters and ENews.
- 10) Maintain a rain gauge and display a highly visible record of rainfall on noticeboards, to maintain water awareness
- 11) Hold information stalls at local and city farm events to promote water conservation and raise awareness about looking after your Water Catchment.

#### **4. Water Utilisation**

To maintain its productive food gardens, nursery, kitchen and serve the needs of participants, NSCF aims to use a minimal amount of water. To do this NSCF needs to maximise water recycling and collection of rainwater whilst also implementing a number of water saving strategies including:

##### **4.1 In the Kitchen:**

- 1) Recycle grey water
- 2) Install rain water tanks to collect water from all roof surfaces
- 3) Install water restrictor valves on all taps

##### **4.2 In the Toilets and Bathrooms:**

- 1) Install composting toilets that use minimal water to flush
- 2) Install rain water tanks to collect water from all roof surfaces
- 3) Recycle grey water
- 4) Install water restriction valves on showerhead and taps
- 5) Use rain water in hand basins and to flush toilets.

##### **4.3 In the Nursery:**

- 1) Install rain water tanks to collect water from all roof surfaces
- 2) Group plants with similar water requirements to allow the watering system to cater to different lengths of watering times.
- 3) Place plants that have high water requirements in trays that hold water, allowing plants to draw water as needed.
- 4) Recycle all water that falls on the ground, into the gardens
- 5) Install a rain monitor that disengages the watering system when on rainy days.
- 6) Install sprinklers that water from the bench up, rather than overhead sprinklers
- 7) Install sprinklers that distribute a radius of water that covers only the width of the benches
- 8) Investigate options for filtering and recycling water through the nursery irrigation system
- 9) Use stormwater collected from car park to water nursery.

##### **4.4 In the Gardens (including Market Garden) Orchards and Green Waste Recycling Area**

- 1) Sprinklers and aboveground soaker hoses NOT TO USED at any time. (Exception that tumblers can use soaker hoses once per week to moisten compost but must be used with a timer)
- 2) ABSOLUTELY NO WATERING between 10am and 3pm from town water or tanks Which means NO PLNTING between 10am-3pm. (During hottest period of the year; August to March)
- 3) Before 10am and after 3pm, the following are permitted:
  - a. Drip irrigation under 5cm of soil or mulch, with a timer.
  - b. Watering using hand held hoses, watering cans and buckets
  - c. Topping up water gardens with hand-held hoses
- 4) Install water restrictor valves on all taps
- 5) Use mulch on all garden beds and fruit trees to reduce water evaporation

- 6) Choose plants that require less water where possible.
- 7) Exclude the growing of high water use plants (eg. Lettuce) during our hottest periods and exchange with more hardy edible plants (eg. Brazilian spinach)
- 8) Group plants that require similar water requirements together so that all gardens need not get watered to the same degree.
- 9) Use swales to catch water and divert to gardens.

## **5. Waste Water Management**

### **5.1 Technologies installed**

NSCF generates wastewater from hand basins, shower, kitchen sinks and toilets. NSCF aims to recycle all wastewater on-site through adoption of the following technologies:

#### 1) Hand basins

All hand basins will be installed with grey water diverters that filter solids and then direct water to gardens through approved grey water hoses. The water is reticulated through drip irrigation and distributed on the surface of the garden soil and covered with mulch.

#### 2) Shower

Grey water will be recycled from the shower through the Biolytix Compost Toilet System. This system is designed to take black and grey water through a chamber of composting worms and microbes that break solids down. The nutrient filled water from the system is then reticulated through drip irrigation and distributed on the surface of the soil and covered with mulch in a designated filtration orchard.

#### 3) Kitchen sinks

Grey water will be recycled from the kitchen through the Biolytix Compost Toilet System. This system is designed to take black and grey water through a chamber of composting worms and microbes that break solids down. The nutrient filled water from the system is then reticulated through drip irrigation and distributed on the surface of the soil and covered with mulch in a designated filtration orchard.

#### 4) Toilets

Blackwater will be recycled from the toilet through the Biolytix Compost Toilet System. This system is designed to take black and grey water through a chamber of composting worms and microbes that break solids down. The nutrient filled water from the system is then reticulated through drip irrigation and distributed on the surface of the soil and covered with mulch in a designated filtration orchard.

### **5.2 Cleaning products**

NSCF will use cleaning products in all bathroom and kitchen facilities that are biodegradable, low in phosphorus and salt and made from natural products. Users on site will be informed of the importance of using non-toxic and biodegradable products in the sinks, toilet and shower through clear signage.

## **6. Water Management**

The development of a long term Water Management Plan and Diagram will be a primary outcome of this project. It will incorporate the following components and integrate them into a needs assessment which prioritises usage and develops further working examples of efficient water management.

### **6.1 Stormwater management**

An overall analysis of stormwater and its flow across the farm will be developed. Rain that falls on the ground (including surrounding road surfaces) at NSCF will be maximised through collection in swales, mulched gardens and ephemeral ponds. Stormwater will be collected from the Park n Ride adjacent to NSCF and Edmund and Edgar St and filtered through bio-retention systems. The water will then be stored for use in irrigating the nursery, market gardens or for flushing toilets.

### **6.2 Groundwater management**

An analysis of the depth of the water table and concentration of salts and nutrients will be performed and monitored.

## **7. Water Catchment Management**

Situated in the water catchment area of Enoggera and Breakfast Creek, NSCF is committed to ensuring all water entering the catchment from our site is of high quality. NSCF will achieve this through:

- 1) Monitoring the quality of water entering Enoggera Creek upstream from our site.
- 2) Working with other water catchment groups in our area to help improve the quality of water in our catchment up and down stream.
- 3) Collaborating with Brisbane Habitat on revegetation of the creek
- 4) Ensuring recycled water is processed to a high quality before being discharged into the environment.
- 5) Minimise the loss of organic nutrients off-site so that they don't run-off into creek at peak rain times through using mulch, swales and thick border plantings and collecting leaves from the car park and streets to use as mulch.
- 6) Avoid planting deciduous trees along footpaths because of nutrient loading into the creeks.
- 7) Ensure that any plants with weed potential aren't able to drop seed into storm water Or get washed down the creek eg Madeira vine, leucaena
- 8) Promote Water Catchment sustainability ideas at NSCF through signage and displays at local events.

## **8. Pumping and Energy Requirements**

In implementing the strategies listed above, gravity will be used where possible to distribute the water. Where pumps are required, low use of energy from non-renewable sources will be a prime design consideration, with solar powered pumps being used wherever possible.

## **9. Managing Water Quality**

Regular testing of water quality is important in ensuring the safety of participants on site and to ensure water entering the catchment is clean. Water quality will be monitored monthly on the following water recycling devices:

- Biolytix compost toilet
- Grey Water diverters
- Water tanks
- Stormwater bio-retention filters

To assist in maintaining good water quality, all systems will be installed with filtering systems that will be cleaned on a monthly basis.

In collaboration with SOWN and BCC, NSCF will monitor the water quality of the water in Enoggera Creek both up and down stream from NSCF. NSCF will offer assistance in programs that promote and support the rehabilitation of Enoggera Creek.

## **10. Responsibilities of Water users on site**

It is the responsibility of all water users on site to use water conservatively. Whilst it is recognised that to maintain agricultural systems our water requirements are higher than other industries, we endeavour to use water responsibly by:

- 1) Reducing our reliance on town water for irrigation by recycling all black, grey and stormwater on site into the gardens.
- 2) Using drip irrigation and hand watering to irrigate productive crops, rather than sprinklers.
- 3) There will be no irrigating productive gardens during the hottest times of the day (between 10am and 3pm from August to March inclusive) Brisbane City Council may impose stricter restriction in periods of drought.
- 4) Install timers on taps and drip irrigation that are to be left on without supervision.
- 5) Report leaking taps and mains immediately to the site co-ordinator and arrange repairs.
- 6) Use rainwater to irrigate crops when available before using town water.
- 7) Ensure water is not used for activities that can be carried out without the use of water (ie sweeping instead of hosing floors)
- 8) Use cleaning products in the sinks and shower that are biodegradable, low in phosphates and salt and made from natural products.
- 9) Dispose of paints, solvents, oils and other inorganic products responsibly. Do not put these products down our sinks as they will potentially can kill micro-organisms in the soil.
- 10) Stop others who are being wasteful or irresponsible with water use on site.

## **11. Implementing the policy**

The water policy will be implemented by all users of the NSCF site and coordinated by the Water Sustainability Officer at NSCF. The Water Sustainability Officer is to consult and collaborate with all management teams and water users on NSCF to ensure implementation of the policy is carried out and effective in reducing water use on NSCF.

It is also the responsibility of all water users at NSCF to implement the water policy in their every day actions they undertake at the farm. The Green Team, responsible for site and infrastructure maintenance at NSCF should also allocate time within its fortnightly meetings to address issue arising on water use, maintenance of water features and technologies and be responsible for informing new gardeners about NSCF's water policy.

It is recognised that initial funding through the Gambling Machine Benefit Fund (in 2005) was limited in its capacity to enable all water saving technologies and techniques to be implemented during the project's six month duration. Hence, a three year budget and plan for implementing the Water Policy has been prepared by the current Water Sustainability Officer. It is envisaged that this budget will be used to find further funding to implement all water conservation strategies outlined in this policy and employ a water sustainability officer to oversee the implementation.

## **12. Evaluating and Reviewing the Policy**

The policy will be evaluated through measuring the impact it has had on water consumption and habits of water use by NSCF staff and volunteers. This information will be gathered through surveys on a six monthly basis. The surveys will measure:

- Changes in usage of mains water
- Changes in awareness of water conservation by staff and volunteers
- Changes in water conservation practices implemented in the homes of NSCF staff, volunteers, program and workshop participants.
- Public interest in NSCF's water sustainability demonstrations and Water Trail.

The policy will be reviewed every 2 years as part of a general policy review of all NSCF Policies and procedures. This process will be instigated by NSCF Management Committee and carried out by either a Water Sustainability Officer (if such position is funded) or the Site management/Green Team.