ISSUE 4 | SEPTEMBER 2011

HNRRP e-news

This issue

Welcome

After just over two years of very intensive activity, the Hawkesbury-Nepean River Recovery Program (HNRRP) is coming to an end, having successfully delivered its intended outcomes on time and under budget.

In this final edition of HNRRP e-news we take the opportunity to reflect on some of the major achievements from the seven HNRRP projects and celebrate the great work that has been done to improve the health of the Hawkesbury-Nepean catchment.

Congratulations to the project managers and their teams on their outstanding efforts, and thank-you to the many people who have supported and assisted the HNRRP.

Thank-you to the Australian Government for making the HNRRP a reality through its very significant investment in the future of one of Australia's most important and iconic rivers systems.

Bruce Boyes
Program Manager

Virginia Brunton, Project Officer (Compost) for NSF, with the Compost Australia leadership award

Smart Farms wins national composting award

A Smart Farms compost initiative has won the leadership award for the most innovative recycled organics product design for a specific application at the Compost Australia national awards ceremony held on 27 August 2011.

Compost was spread over more than 400 hectares of farmland in the Hawkesbury-Nepean catchment. The compost was produced by two suppliers from recycled residential greenwaste. It was fully subsidised by the NutrientSmart Farms (NSF) project and delivered free of charge to farmers, ready for them to spread on their farms.

Expected benefits from using compost include reduced water and fertiliser requirements, assistance with disease management in crops and improved soil structure and biological activity.

The NSF compost project was particularly recognised for the development of the specifications for the compost provided to farmers. The specifications were more rigorous than the current Australian Standard and provided three different compost options that could be chosen to meet the needs of different farm circumstances.

About

HNRRP e-news is the newsletter for the Hawkesbury-Nepean River Recovery Program.

The program is managed by the Office of the Hawkesbury-Nepean (OHN) in partnership with New South Wales agencies.

HNRRP e-news is produced by the OHN and distributed through program partners.

Photos courtesy of the OHN and project partners.

For more information visit *www.ohn.nsw.gov.au* or call (02) 4729 8138.

Hawkesbury-Nepean River Recovery Program

Australian Government
Water for the Future

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The Hawkesbury-Nepean River Recovery Program is funded by the Australian Government through the Water for the Future program.

New metering technology saves time and improves accuracy for irrigators

Irrigators in the Hawkesbury-Nepean region have welcomed new metering technology introduced as part of the HNRRP Improving Hawkesbury-Nepean Water Balance Accounting (metering) Project.

Throughout the project, the NSW Office of Water (NOW) has installed and upgraded approximately 800 telemetered metering facilities in the Hawkesbury-Nepean catchment.

The metering facilities consist of a meter and a solar-powered, battery-backed flow-meter transmitter which work together to provide accurate water extraction data.

Twelve months into the meter installation stage, NOW, in partnership with Tyco Industries, helped to finalise a new and improved flow-meter transmitter, the Emflux i500. All Tyco meters have been upgraded to include the new model.

i500 flow-meter transmitter

The benefits of the Emflux i500 are its improved capacity for remote operation and its ability to be repaired onsite. The meter features enhanced diagnostics that allow self-verification and calibration processes to be performed remotely. In addition, NOW field officers can now carry out repairs without having to take any metering equipment offsite. These features have the potential to significantly reduce the amount of time spent conducting in-field verification and will minimise any disruption to licence holder activities.

The new technology also allows for improved flow measurement accuracy. This gives irrigators improved confidence in water extraction data, allowing them to keep better track of their current and future water needs.

Smart farmer to cook up a storm

The Smart Farms Project recently conducted an online survey to gather information about rural natural resource management in the Hawkesbury-Nepean region to assist with planning future natural resource management projects, both locally and beyond.

A stainless steel barbeque was offered as a prize to a randomly selected participant. The Smart Farms Project, managed by the Department of Primary Industries, is pleased to announce that Neale Tweedie of Atlas Turf in Richmond was the lucky winner! Mr Tweedie plans to use the barbeque at home with his family.

Surveys were also conducted in person and over the phone, resulting in nearly 500 responses altogether. The results are currently being analysed and a report will be published at www.dpi.nsw.gov.au/agriculture/resources/smartfarms.

Mr Tweedie accepting the BBQ from George Pappas of Economy Mowers & Hawkesbury Heating

Randwick water efficiency projects to finish well ahead of schedule

Randwick City Council is set to complete six major water conservation and efficiency projects with funding of $591,918.50 from Sydney Water through the HNRRP Irrigation and Landscape Efficiency Program (ILEP).

The achievements of Randwick City Council are a great example of the work made possible by ILEP throughout Sydney.

The Randwick projects include:

- Cromwell Park Stormwater Harvesting Scheme – capturing stormwater from the Malabar area and using it to irrigate Cromwell Park and surrounding open space areas
- Cromwell Park new irrigation system installation – allowing efficient stormwater irrigation at Cromwell Park
- Coogee Plaza irrigation upgrade, recycled water extension and stormwater harvesting upgrade – capturing stormwater from the Coogee area and reusing it to irrigate and supply amenities at Coogee Plaza
- Clovelly Stormwater Harvesting Scheme – capturing stormwater from the Clovelly area and using it to irrigate Burrows Park and surrounding open spaces
- Bore water connection at Maroubra beachfront – using bore water instead of drinking water to irrigate the beachfront
- Soil aeration/renovation and irrigation maintenance at Burrows Park, Cromwell Park and Yarra Oval – improving soil conditions and reducing water use.

The council predicts water savings from these projects will be around 50 million litres of drinking water per year. This is the equivalent of 50 olympic-size swimming pools not being released from the Hawkesbury-Nepean dams.

As well as reducing demand on drinking water, the new initiatives also capture nutrients and waste before they enter waterways and beaches, resulting in a cleaner environment for the Randwick City community.

Randwick City Council's total water cycle management approach, including water conservation, water re-use and water quality improvement, shows a real commitment to environmentally sustainable practices at a local level, made possible with support from the HNRRP.

Zaman Shamsuz, Environmental Engineer for Randwick City Council and Project Manager for the work said, "The ILEP funding has played a significant part in bringing these major water efficiency projects forward so that we will see the benefits much sooner than we thought. Our community can now expect a more secure drinking water supply and enjoy better quality open spaces."

New stormwater irrigation at Cromwell Park

Water licence purchases increase environmental flows

Over the course of the HNRRP, the Office of Environment and Heritage has purchased approximately 4,900 million litres of river water entitlements from water users across the Hawkesbury-Nepean catchment at a cost of $5.7 million.

There is a total of 97,000 million litres of unregulated river licences in the Hawkesbury-Nepean catchment.

The water represents approximately 5 per cent of unregulated river licences in the catchment and was previously available for licence holders to extract for irrigation and other purposes. However, as a result of the HNRRP licence purchases, it will now be reserved for environmental flows.

Environmental flows are quantities of water within a river system that are protected from extraction so that they can remain in the river for environmental benefit, contributing to healthier river ecosystems.

The prices paid for each entitlement varied due to differences in local market values and the level of environmental benefit that would be gained from each location.

Soccer teams to benefit from recycled water irrigation

Work on the South Windsor Effluent Reuse Scheme is in its final stages. It has included constructing a new recycled water treatment facility at the South Windsor sewage treatment plant and installing 10 kilometres of pipes to supply the recycled water to nearby parks and schools for irrigation.

The scheme will provide a continuous source of water for irrigating playing fields which will improve surfaces and provide safer conditions for players and recreational users.

The Bligh Park Soccer Club holds training sessions on Bounty Reserve, Bligh Park and plays matches on Berger Road Reserve, South Windsor. These fields are just two of the six open space areas that will benefit from new recycled water irrigation facilities.

Mayor of Hawkesbury, Councillor Bart Bassett said, “Maintaining playing surfaces to a high standard can be very difficult with grounds needing consistent irrigation to remain suitable. The new recycled water irrigation systems will provide much needed assistance, supplying the volumes of water needed for better and safer fields. The Soccer Club is just one sporting group who will benefit from the reuse scheme.”

As well as creating better playing surfaces, the scheme will improve the health of the Hawkesbury-Nepean River System by significantly reducing the volumes of nitrogen and phosphorus that are discharged into South Creek, which runs to the Hawkesbury River.

The Australian Government has contributed $9,138,500 to the construction of the $9.8 million recycled water scheme through the HNRRP.

Bligh Park Soccer Club with government representatives, councillors and project team members

Community involvement plays a big part in Smart Farms success

The Smart Farms projects, NutrientSmart Farms and WaterSmart Farms, have worked with landholders to improve nutrient management and water use efficiency across the lower Hawkesbury-Nepean region. This has been achieved through a combination of education, training and grants for on-ground works.

Over 100 community education and training activities were held as part of the Smart Farms initiative, including a mixture of formal training, workshops, field days and bus tours. They covered an extremely diverse range of topics, from the use of compost through to improving irrigation pump performance.

The activities were especially important in the initial stages of the projects to raise awareness of the potential personal and environmental benefits and encourage landholders to take advantage of the grants being offered.

Of the events where a formal evaluation was undertaken, nearly 95 per cent of participants said they would recommend the event to others and 86 per cent either agreed or strongly agreed that the information and advice provided was of a high standard.

As a result, the Smart Farms projects have celebrated the following achievements:

- NutrientSmart Farms has provided grants for over 187 on-ground works projects that will stop over 70 tonnes of nitrogen and over 17 tonnes of phosphorus from entering the river system every year. As a result of the grant investment of just over $3 million (including GST), landholders who implemented on-ground works projects provided contributions (cash and in-kind) of nearly $4 million.
- WaterSmart Farms has provided grants for over 130 on-ground works projects that have achieved over 4,500 million litres of water savings per year, and will stop over 19 tonnes of nitrogen and 7 tonnes of phosphorus from entering the river system every year. As a result of the grant investment of just over $11 million (including GST), irrigators who implemented on-ground works projects provided contributions (cash and in-kind) of nearly $6 million.

As well as the education and training activities, seven demonstration farms have been created as part of the project. A NSW Department of Primary Industries-run demonstration farm has been established at Richmond to display best-practice nutrient and water management for field vegetable and turf farms. In addition, six private farms have been set up to display best-practice water management for irrigated farms, including water recycling and evaporation control technologies.

The WaterSmart Farms project has also delivered an SMS-based irrigation scheduling service for farmers in the region. The service, using technology developed by the CSIRO, sends irrigators a simple text message providing advice on when and how much to irrigate.

Advanced Drip Irrigation Workshop at Richmond

Keeping a close eye on phosphorus

As part of the HNRRP, the NSW Office of Environment and Heritage (OEH) has been monitoring nutrient levels in the runoff from a selection of farms that participated in the Nutrient Smart Farms Project. This monitoring has focused on the two primary nutrients that impact on the health of the Hawkesbury-Nepean River – phosphorus and nitrogen.

Phosphorus presents a problem for the health of the river system because, in combination with nitrogen, it promotes excessive growth of aquatic weeds and algae in the river. This growth can be potentially fatal to aquatic organisms, which can impact recreational and commercial fishing. It can also diminish the amenity and aesthetic quality of the river, leading to reduced opportunities for recreational and tourism activities.

Agriculture is only one source of nutrient pollution in the Hawkesbury-Nepean system. A valuable insight gained from the OEH monitoring data is that agriculture contributes proportionately much more phosphorus than nitrogen, compared to natural landscapes. Reducing phosphorus levels is therefore a priority in managing runoff from agricultural lands.

Most of the phosphorus from agricultural runoff is attached to soil particles. With this in mind, many of the initiatives introduced by the Nutrient Smart Farms Project focused on minimising levels of soil entering the river system from agricultural land.

The Nutrient Export Monitoring Project team has used the data gathered over the life of the project to better estimate the extent to which these initiatives have reduced the levels of phosphorus and other nutrients in the Hawkesbury-Nepean River System. The findings will be published in the HNRRP Final Report.

Find out more

Further information on the Hawkesbury-Nepean River Recovery Program can be found on the Office of the Hawkesbury-Nepean website at www.ohn.nsw.gov.au/River-recovery/default.aspx

Full details of the HNRRP's objectives, methods and achievements will be presented in a final report available on the Office of the Hawkesbury-Nepean website later in 2011. Links to case studies and other legacy resources from the HNRRP will also be available.

What we have achieved

Reduced nutrient run off
The Nutrient Smart Farms Project has reduced nutrient runoff from agricultural activity through education and on-ground works, including compost treatment. Managed by the NSW Department of Primary Industries and the Hawkesbury-Nepean Catchment Management Authority.

Improved agricultural water efficiency
The Water Smart Farms Project has made more efficient use of river and town water for irrigated agriculture by upgrading irrigation systems, improving water harvesting and reuse, and through education and training. Managed by the NSW Department of Primary Industries.

Improved water use equality
The Improving Hawkesbury-Nepean Water Balance Accounting Project has improved water use equality and efficiency by installing and upgrading water metering systems for approximately 800 licensed water users. Managed by the NSW Office of Water.

Improved irrigation practices
The Irrigation and Landscape Efficiency Project has helped to improve irrigation efficiency in non-agricultural activities by offering subsidies to councils, schools and golf courses to assess their open space irrigation, leading to on-ground works to improve practices. Managed by Sydney Water Corporation.

Returned water to the river
The Water Licence Purchase Project has bought back water access licences from willing sellers across the catchment to increase the amount of water that stays in the river system. Managed by the Office of Environment and Heritage, Department of Premier and Cabinet.

Recycling and reuse of water
The South Windsor Effluent Reuse Scheme has constructed a recycled water plant at Hawkesbury City Council's South Windsor sewage treatment plant, along with a distribution system to supply the recycled water to council reserves, schools and other customers. Managed by Hawkesbury City Council.

Measured success
The Nutrient Export Monitoring project has quantified nutrient exports from agriculture in the Hawkesbury-Nepean catchment. The project has also verified the reductions in nutrient exports achieved by the Nutrient Smart Management and Water Smart Farms projects. Managed by the Office of Environment and Heritage, Department of Premier and Cabinet.

More information
For more information on each project visit www.ohn.nsw.gov.au/River-recovery/default.aspx and click on the project links.

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