

DR PETER NICHOLS

PhD (Ecology), PGDip (Env Studies), BSc,(Urban Hort) ADip (Hort), St.Att.(Arb)

CURRICULUM VITAE- DR PETER NICHOLS

Name: Dr Peter Nichols

Address: 243 Old North Rd Lochinvar NSW 2321

Telephone: 0407 280 441

Email: nichols@banksia-ecology.com.au

Date of birth: 6 April 1967

Nationality: Australian

Qualifications: PhD - Ecology (WSU)
Post Graduate Diploma – Environmental Studies (Macquarie)
Bachelor of Science – Urban Horticulture (UTS)
Associate Diploma of Applied Science –Landscape (Melb)
Statement of Attainment - Arboriculture Techniques (Ryde)

Fields of special competence:
Ecology (terrestrial vegetation)
Biodiversity conservation planning and management
Arboriculture
Ecological restoration projects
Environmental field studies
NSW Land & Environment Court expert witness
- Ecology assessments
- Arboriculture
- Landscape design
Environmental rehabilitation design, construction and evaluation
Technical report writing
4WD and remote field work experience
Soil conservation and erosion control

Awards: Best Paper Award- The pollution removal and stormwater reduction performance of street-side bioretention basins after ten years in operation. (SEE, Mie, Japan, 2015)

Stormwater Queensland 2016 Award for Excellence in Research and Innovation

Credentials: NSW Driver Licence 108831613
Construction Induction White Card 1726293
NSW WWC Blue Card

Memberships Member, Australian Institute of Horticulture
Founding Member, Institute of Australian Consulting Arborists

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Other qualifications/courses

2000	Safe Driver Training
1999	Success Communication & Success Leadership (Toastmasters)
1999	Conflict Resolution Workshop
1992	Statement of Attendance Pesticide Handling Course
1987	Essential First Aid (Australian Red Cross)

Employment history:

Banksia Ecology

Director | Principal ecologist and arborist (2006-)

Provide advice to local government, private clients, proponents and the community on statutory and strategic planning matters and contribute to local environmental initiatives in relation to environmental planning, management and conservation.

- Provide best practice advice on environmental impact of development.
- Provide best practice arboricultural advice on impact of development.
- Provide advice to clients on compliance with environmental and planning legislation.
- Advise on best practice urban and environmental design.
- Develop policies and strategies to achieve a measurable improvement in ecosystem extent and condition.
- Specialised knowledge and/or experience implementing aquatic and terrestrial ecosystem rehabilitation and protection projects.
- A thorough understanding of ecology and impacts on ecosystem structure and functioning from human activities; contemporary knowledge of effects of climate change on natural systems and biodiversity and ameliorating strategies at both global and local levels.
- Demonstrated ability to provide an innovative and professional workplace atmosphere for team members; demonstrated experience in effectively managing, developing, and motivating staff.

Lake Macquarie City Council

Natural Landscapes Officer (2019-2023)

Provide advice to local government, proponents and the community on statutory and strategic planning matters and contribute to local environmental initiatives in relation to environmental planning, management and conservation.

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Biodiversity and Conservation Division, NSW Department of Planning Industry and Environment

Senior Conservation Planning Officer (contractor) (2018-2019)

Provide advice to local and state government, proponents and the community on statutory and strategic planning matters and contribute to the NSW Government's initiatives in relation to environmental planning, management and conservation.

- Co-ordinate and provide advice to external stakeholders and management on strategic environmental planning matters to ensure optimal natural, environmental, and Aboriginal cultural heritage conservation outcomes.
- Ensure that environmental assessment and strategic planning advice is consistent with NSW government policies and guidelines.
- Review and report as relevant on the environmental impacts, including biodiversity, sustainability and Aboriginal cultural heritage and ensure consistency of OEH comments on planning proposals and activities including Major Projects.
- Review and contribute to the development of strategic planning documents and Environmental Planning Instruments, such as State, Regional and Local Environmental Plans in accordance with OEH responsibilities.
- Provide guidance and opinion on natural resource and heritage conservation and management for future Government reforms.
- Provide timely, high quality briefing notes and other written materials on strategic and environmental planning matters ensuring high quality and accurate information to inform decision making processes.
- Undertake data analysis and related research on threatened species and biodiversity conservation (e.g. vegetation mapping) using tools such geographical information systems to provide advice on major projects and planning proposals.

University of the Sunshine Coast

Adjunct Senior Research Fellow (2016-)

Contribute to and manage a range of engineering student research projects related to environmental engineering, stormwater pollution, water harvesting and water quality. The key areas of research included: Optimisation of Water Sensitive Urban Design (WSUD) strategies; Optimising permeable pavements with underlying reservoirs to enhance urban tree performance; and Relating the hydraulic characteristics of stormwater quality improvement devices to their treatment performance.

Prepared and delivered several component units of tertiary curriculum delivery focused on the practical application and use of statistics in research projects.

University of the Sunshine Coast

Postdoctoral Research Fellow (2013-16) School of Science and Engineering

Managed a range of research projects related to stormwater harvesting and water quality. The key areas of research included: Optimisation of Water Sensitive Urban Design (WSUD) strategies; Using street trees with permeable pavements to minimise stormwater pollution and runoff volumes; Optimising permeable pavements with underlying reservoirs to enhance urban tree performance; and Relating the hydraulic characteristics of stormwater quality improvement devices to their treatment performance.

Prepared and delivered several component units of tertiary curriculum delivery focused on the practical application and use of statistics in research projects.

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Sunshine Coast Regional Council

Coordinator, Parks Technical Unit (2011-13)

Directly responsible for the successful coordination of work schedules and assisted with the management of a multi-disciplinary staff group (>150 EFT), and associated financial resources (>\$50M), to ensure that the open spaces, streetscapes, parks and gardens were maintained to agreed service level standards.

Directly responsible for the development and ongoing management (quarterly reviews) of the annual budget for the Branch, and also assisted with the development and implementation of the annual capital works delivery program (>\$65M). Development, preparation and reporting of complex asset management plans (AMPs) for public open spaces and reserves. Responsible for the review of the maintenance service levels undertaken on all public land under the care and control of Council and represented a major review of operational activities undertaken by the Department. This project contributed to the development of new operating policies and practices across the region.

University of Western Sydney

PhD Candidate, Restoration Ecology (2002-2006)

University of Western Sydney

- Lab technician & instructor (2002-04)
- Field Studies teaching assistant (2002-04)

Hornsby Shire Council

Coordinator, Environmental Assessments Unit (2002)

Hornsby Shire Council

Environmental Scientist (1996)

Newcastle City Council

Tree Management Officer (1995-6)

Publications- Books

Draper, D.B., and Richards, P.A. (2009) Dictionary for Managing Trees in Urban Environments. (Nichols, P.W.B., contributing author)

Nichols, P., Drapper, D. (2017) Post implementation assessment of WSUD approaches. *In* Water Sensitive Urban Design. Eds. Gardner, E., Begbie, D., Sharma, A. (2017) Manuscript chapter in preparation.

Publications- journals and conference papers

Using Ground Penetrating Radar to Locate and Categorise Tree Roots Under Urban Pavements

July 2017

Journal article

Urban Forestry & Urban Greening

Peter Nichols, Adrian McCallum, Terry Lucke

Pathways for the Evaluation of Stormwater Quality Improvement Devices - The Experience of Six Countries

June 2017

Journal article

CLEAN - Soil Air Water

Terry Lucke, Peter Nichols, Earl Shaver, Maximilian Huber

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A Detailed Analysis of Sediment PJournal article Sizes and Clogging in Permeable Pavements

February 2017

Journal article

CLEAN - Soil Air Water

Peter Nichols, Terry Lucke

Field Evaluation of the Nutrient Removal Performance of a Gross Pollutant Trap (GPT) in Australia

August 2016

Journal article

Sustainability

Peter Nichols, Terry Lucke

Debris behaviour during storms and the optimisation of culvert design Comportement de débris durant les tempêtes et l'optimisation de la conception du ponceau

July 2016 9th International NOVATECH Conference, Lyon.

Peter Nichols, Terry Lucke, Brian Manning-Dickfos

Performance Evaluation of a Floating Treatment Wetland in an Urban Catchment

June 2016

Journal article

Water

Peter Nichols, Terry Lucke, Darren Drapper, Christopher Walker

Rain Drop Measurement Techniques: A Review

January 2016

Journal article

Water

Gopinath Kathiravelu, Terry Lucke, Peter Nichols

Evaluation of the long-term pollution removal performance of established bioretention cells

January 2016

International Journal of GEOMATE

Peter Nichols

Field and Evaluation Methods Used to Test the Performance of a Stormceptor® Class 1 Stormwater Treatment Device in Australia

December 2015

Journal article

Sustainability

Peter Nichols, Terry Lucke, Darren Drapper

The Pollution Removal and Stormwater Reduction Performance of Street-side Bioretention Basins after Ten Years in Operation

December 2015

Journal article

The Science of The Total Environment

Terry Lucke, Peter Nichols

The Pollution Removal and Stormwater Reduction Performance of Street-side Bioretention Basins after Ten Years in Operation

December 2015

Conference Paper

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Evaluation of the long-term pollution removal performance of established bioretention cells
Conference Paper
November 2015 Proceedings of First International Conference on Science, Engineering & Environment, Nov. 19-21, 2015,
Terry Lucke, Peter Nichols

Field Evaluation of Hydrology Performance of Established Bioretention Cells Receiving Street Drainage
Conference Paper
October 2015, 9th International Water Sensitive Urban Design Conference
Terry Lucke, Peter Nichols

Bribie Lakes: A Case Study in using Floating Wetland Treatment Systems to Treat Urban Runoff
Conference Paper
July 2015, 9th International NOVATECH Conference, Lyon.
Peter Nichols, Christopher Walker, Terry Lucke

Local Level Stormwater Harvesting and Reuse: A Practical Solution to the Water Security Challenges Faced by Urban Trees
July 2015
Journal article
Sustainability
Peter Nichols, Terry Lucke

A Simple Field Test to Evaluate the Maintenance Requirements of Permeable Interlocking Concrete Pavements
May 2015
Journal article
Water
Terry Lucke, Richard White, Peter Nichols, Soenke Borgwardt

Do sediment type and test durations affect results of laboratory-based, accelerated testing studies of permeable pavement clogging?
January 2015
Journal article
The Science of The Total Environment
Peter Nichols, Terry Lucke, Richard White

Designing the Perfect Rainfall Simulator for Urban Stormwater Studies: An Impossible Dream?
Conference Paper
September 2014, 13th International Conference on Urban Drainage
Gopinath Kathiravelu, Terry Lucke, Peter Nichols

Physical Clogging and Infiltration Capacity of Permeable Pavements through Laboratory Simulation Experiments using Permeable Interlocking Concrete Pavement (PICP) Models
Conference Paper
September 2014, 13th International Conference on Urban Drainage, 7-12 September 2014.
Mohamed Ansaf, Kachchu Mohamed, Terry Lucke, Peter Nichols

Use of Floating Wetlands to Treat Stormwater Runoff From Urban Catchments in Australia
Conference Paper
September 2014, 13th International Conference on Urban Drainage
Christopher Walker, Peter Nichols, Kristin Reeves, Daryle Sullivan

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Permeable Pavements: PJournal article Size Distributions, Infiltration and Clogging -The Road to Durable Performance

Conference Paper

September 2014, 13th International Conference on Urban Drainage (ICUD)

Peter Nichols, Terry Lucke, Carsten Dierkes, Lancelot Denny

Designing the perfect rainfall simulator for urban stormwater studies: An impossible dream?

Conference Paper

September 2014, 13th International Conference on Urban Drainage

Gopinath Kathiravelu, Terry Lucke, Peter Nichols

Comparing Two Methods of Determining Infiltration Rates of Permeable Interlocking Concrete Pavers

Journal article

August 2014

Water

Terry Lucke, Peter Nichols, Carsten Dierkes

Review on design requirements of a rainfall simulator for urban stormwater studies

Conference Paper

August 2014,

2014 Stormwater Queensland Conference

Gopinath Kathiravelu, Terry Lucke, Richard White, Peter Nichols

Street tree health

Conference Paper

July 2014, STORMWATER QLD Conference, Noosa, 2014.

Jennifer Mullaney, Terry Lucke, Peter Nichols

Treating Urban Runoff in Australia Using Floating Wetlands

Conference Paper

July 2014, STORMWATER QLD Conference, 2014.

Christopher Walker, Darren Drapper, Peter Nichols, Terry Lucke

Testing a facilitation model for ecosystem restoration: Does tree planting restore ground layer species in a grassy woodland?

Journal article

February 2010

Austral Ecology

Peter Nichols, E. Charles Morris, David A Keith