



GSLN Streamwatch Vision

Purpose of this document: to state the vision and context for the Streamwatch citizen science water monitoring program.

Vision for Streamwatch

Streamwatch objectives

Greater Sydney waterways are monitored, maintained and improved through community stewardship, education and data contributing to scientific knowledge.

Scope of work

Focus: Relevant waterway monitoring, recording, reporting, assessment and remediation

What: Water and riparian condition, physical, chemical, biological (incl algae), biosecurity, urban run-off, litter, microplastics, flora, fauna, terrain etc via observations, measurements, tests, records and reports

Techniques: Visual, streamlined tests, complex tests, probes, phone apps, procedures and equipment to match varied skill levels

Collaboration: With government agencies, land owners, councils, universities, schools, landcare, bushcare, and community groups and other partners

Funding: Through strategic alliances, grants, partnerships and corporate sponsorships

Community engagement

Education and training in appropriate techniques

Get more people involved at varying skill levels for different purposes

Connect with Riverkeeper and other networks and assist and/or drive new groups

Connect to Waterwatch

Site monitoring with 2 levels of participation

Basic level: Streamlined testing procedures, with a comparatively simple set of information to collect: eg citizens, neighbourhood groups schools and landcare/bushcare groups who want to monitor their local waterways.

Advanced level: More complex information and protocol requirements, with data analysis and planning. Eg at strategic monitoring sites within a catchment to determine overall health of the system such as upstream of confluences; at swimming or food sites; at catchment outflows and sites such as developments, industries; sewerage treatment plants; as nominated by communities, government agencies, or research institutions.

Streamwatch scientific steering panel

Part-time scientific water quality advisory group (eg university, Sydney Water, DPIE) to determine:

- environmental variables that should be monitored
- appropriate monitor/test variables and frequencies
- applications to research questions
- definition and identification of strategic sites
- appropriate equipment & protocols to use for the monitoring, including phone apps
- review database suitability for new data and sites
- quality assurance and training requirements
- transition to new monitoring, which will depend on finance
- stay abreast of research and methodology

Chris Noon 03 April 2020

Appendix 1: Context

Alignment of Landcare/streamwatch and government objectives and strategies

GSLN is a community organisation that aims to support individuals and groups who are working to protect, restore and improve the natural environment of Greater Sydney.

DPIE EES: supporting resilient ecosystems and biodiversity for improved conservation outcomes.

Legislative basis for community involvement in environmental activities and decisions

NSW Protection Of The Environment Operations Act 1997 Section 3 Objects of Act:

The objects of this Act include:

(b) to provide increased opportunities for public involvement and participation in environment protection,

(d) to reduce risks to human health and prevent the degradation of the environment by the use of mechanisms that promote the following:

(v) the monitoring and reporting of environmental quality on a regular basis

Water Management Act 2000 No 92 Chapter 1 Section 3: The objects of this act include:

(d) to recognise the role of the community, as partner with government, in resolving issues relating to the management of water sources

Volunteer input: Reference: <https://greatersydneylandcare.org/wp-content/uploads/2019/07/2019-Stakeholder-Workshop-Report.pdf>

Citizen Science Activities compared with community engagement

Defined scientific objectives, observations or collecting data and alerting authorities of problems

Publication and analysis of data and follow-up with authorities

Aspects that citizen scientist volunteers value from US research

Data shared and used for assessments, land developments and alleviation of problems

Communication of tangible results

These characteristics distinguish water testing from most other volunteer groups

Appendix 2: Stakeholder Benefits: what Streamwatch provides

For host and funders

Philanthropy of various types
Information: reliable, catchment wide and long term
Public relations enhancement, including brand access

For Landcare

Broader community environmental network and environmental service suite
Brand name and increased people numbers
Water monitoring at riparian sites to collect data on the impact of Landcare activities

For volunteers:

Technical support, quality assurance, insurance
Equipment & materials
Social support of kindred spirits
Some security, autonomy & independence

For the environment

Long term experienced eyes on the ground for advice and alerts on changes
Independent supporters and communicators, unconstrained by institutions or ideologies
Observations and data for integrated long term planning

For the community

Opportunity to contribute and learn
Collaborating social group with defined shared goals
Data based stories about the local waterways, encouraging interest and education