Creek Link - A Citizen Science Mapping Project

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Key Points

- Technological change is creating new opportunities to engage environmental volunteers in collecting and using local environmental information.
- Many environmental volunteers are unused to using digital technologies, as a result the success of many past technology based projects have had limited success.
- Ensuring that the public interface for any new volunteer based environmental project is as simple and as fun as possible is critical to the likely success of new projects based on digital technologies.

Keywords

waterway, rehabilitation, citizen science, online, maps, Landcare, internet

Introduction

Local environmental groups are placing an increasing emphasis on landscape wide connectivity projects in general, and along waterways in particular. To achieve their aims these groups are often interested in focusing their limited resources on linking and extending existing areas of quality vegetation. To be able to link and extend existing areas of quality vegetation they need to accurately know where this vegetation already exists. Currently there is limited information about the location of quality of local vegetation along local waterways available at a level of detail that the groups require.

In recent years there have been a number of online citizen science projects initiated, including environmental mapping projects. However with a few exceptions most of these projects have struggled to reach the level of public acceptance that was hoped for when the projects were first launched.

CREEK-LINK AUS INC. (Creek link) is an Incorporated Association that was first registered in 2012. Creek link provides simple, interactive online maps to local environmental community groups such as Landcare. The Creek link mapping tool enables groups like Landcare to record key information about their local waterways, and then use that information to assist them achieve their waterway rehabilitation goals.

This presentation explains how the Creek link project came into being, how the project has attempted to address the major difficulties inherent In citizen science projects and how the Creek link project has succeeded to date.

Creek link is run by a part time volunteer management committee of 5 people and is the result of an idea that was initiated within the East Otway Landcare Group. The East Otway Landcare Group is located in the Otway Ranges of South Western Victoria

A description of the Creek link mapping tool:

Individual, locally based environmental groups, receive an interactive online map based of their local area which they access through the Creek link website at www.creeklink.org.au. When the map for a given local area is selected, the viewer can see a simple, colourful, segmented graphic which overlays all of the named waterways in that area. Each segment along the waterway relates to a separate parcel of land. The group running the map have password controlled access to the colour graphic which enables them to adjust the colours on the map to coincide with key pieces of information that they have collected about the waterway.

Information that can be colour coded onto the map includes:

- Where significant areas of native vegetation exists along waterways
- Where stock have been excluded from waterways and
- Where landholders have expressed an interest in undertaking future revegetation works
- Which areas of the waterway have yet to have been assessed

Maund – Creek Link – A Citizen Science Mapping Project

How the Creek link Mapping tool is used:

The Creek link online maps enables environmental groups to:

1. *Make better use of limited resources*: Having a detailed map showing the overall condition of their local waterways enables groups to make more strategic decisions about where projects should be located to give the most cost effective outcomes.
2. *Create more effective funding applications:* Funding bodies are able to see via a simple graphic where the proposed works are located, the logic behind the proposed works and to be able to monitor online when the project has been completed.
3. *More effectively engage other members of the community and motivate existing members:* Members of the public and existing group members can easily view the online map and follow the extent of successful past projects, to understand more clearly the aims of their local environmental group and to be motivated by a clearer understanding about what through working together they can achieve.

The online map has been designed as a template that has the potential to be easily used by community groups anywhere within Australia. All the software used by Creek link is "Open source" and interoperable, meaning costs can be minimized and helping facilitate an easy exchange of data between communities and government agencies.

What has been the experience of Creek link to date?

4 separate Landcare groups in Victoria currently have operational Creek link maps with a further 13 expected to obtain maps in the coming months.

Explaining the initial concept to interested environmental groups has been quite simple as the Creek link maps are in many ways, a logical extension of the paper maps that many groups have previously produced.

The groups Creek link speak to are often able to recognise the limitations of their paper maps. Paper maps are difficult to update, they tend to end up covered in coffee stains and crossed out Texta lines, they can only be in one place at one time and they can easily get lost.

While new groups are enthusiastic about receiving their Creek link maps, the actual process of adding colour to the graphic overlay along the waterways can initially be slower than hoped for. There were a number of reasons for the slower than hoped for uptake but most of those reasons came down to two core difficulties. First that the collection and recording of environmental information has rarely the type of task undertaken by the groups and secondly, and more importantly, many group members are initially reluctant if not resistant to engaging with the digital technologies required to successfully implement the project.

Fortunately Creek link committee had been able to learn from previous community mapping projects some of which may not have been as successful as initially hoped. The Creek link solution to problems previously encountered by many citizen science projects has been to try and make all parts of the project absolutely as simple, as easy, as uncomplicated and as fun as possible.

While the groups have taken time to adjust to what is in essence a completely new set of processes, the speed with which information is being added to the maps in the form of colouring in the different segments of the graphic overlay is steadily increasing. This increase in speed can be primarily attributed to the sense of achievement members of the groups feel as they see their maps being "coloured in".

With the maps proving a successful tool for the existing environmental groups, Creek link is now in the process of compiling a list of additional environmental groups that are interested in getting their own Creek link map. It is the hope of the Creek link committee that over the coming year or so sufficient funding will become available to provide all interested environmental groups, both in Victoria and Australia wide, with Creek link maps.

Conclusions

That volunteer environmental groups like Landcare can clearly see the possibilities of using new, digital, technologies to help them achieve their aims. However getting the members of those same groups to actually enact projects dependent on digital technology is, as previous projects have found, difficult.

7ASM Short Communication

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Given that many environmental groups meet relatively infrequently, are run by volunteers and that data collection is typically not a core group activity, new digital projects like Creek link need to accept that becoming a new part of the groups "job description" will take time.

That making the public interface to citizen science projects as "non technical", as fun, as possible helps break down the reluctance of group members to use new digital technologies.

While still a relatively new project Creek link is showing clear signs of having addressed many of the previous problems besetting online citizen science projects.

If Creek link project continues to be successful it, and projects like it, hold out the promise that in the near future significant amounts of cost effectively sourced new environmental data will be available to the environmental rehabilitation community.