

DATE OF MEETING June 7, 2021

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**SUBJECT CHRONOLOG PHOTOPOINT MONITORING**

## **OVERVIEW**

### **Purpose of Report:**

To provide Council with information on Chronolog Photopoint Monitoring of park restoration sites to engage the public around environmental restoration work in the city.

## **BACKGROUND**

The City of Nanaimo currently works with a number of community volunteer and stewardship groups on restoration projects within the City Park system under the Partners in Parks Program (PIP). The restoration projects have focused on removal and control of invasive species, instream habitat enhancement for salmonids, and the replanting and establishment of native trees on City parkland.

In an effort to educate and engage interest about stream and habitat restoration in parks, Staff have begun to set up a series of “Chronolog” photo-monitoring stations. Chronolog is an environmental photo-monitoring service based in the United States that supports public environmental education by creating an online platform highlighting dozens of environmental restoration projects in North America and the United Kingdom. Chronolog provides hardware and signage to set up a monitoring station, and produces time-lapse videos from publicly-generated images from each monitoring station (see Attachment A).

Chronolog’s mission statement is to engage the public in an interactive way and to keep a record of ecological change for scientific use. Changes in the environment are difficult to see and understand because they happen gradually. Time-lapse images reveal the dynamic change of these habitats in a more interactive way. Using the Chronolog service provides the opportunity to connect residents and visitors of our neighbourhood parks by inviting them to help monitor the restoration and habitat enhancement of these spaces. This engages park users to learn about environmental restoration efforts in a new interactive way by creating crowd-sourced time-lapse videos of park restoration sites. The time-lapse images also preserve a record of ecological changes for project managers to monitor restoration success.

Staff completed a Privacy Impact Assessment (PIA) as part of the research into using this service. The PIA was approved in March 2021. To comply with the PIA, stations are located along major trails and access points that provide exposure and convenience for users while orienting the stations to minimize photographing park users without their knowledge.

## **DISCUSSION**

The City of Nanaimo works with Snuneymuxw First Nation and a number of community participants and stewardship groups on environmental restoration within the City park system. Through the PIP program, the City has worked with 129 participant volunteers in 2019-2020, and 728 in 2021.

Participants followed Park COVID protocols, and were registered for contact tracing. Participants came from schools wanting outdoor environmental education opportunities, service clubs, neighbourhood associations, and stream-keeper groups who volunteered to help with park environmental restoration work. The work involved garbage cleanups, invasive plant removal, and tree and shrub planting work. In-stream and riparian restoration work that did occur was done under professional oversight and with applicable permits from the Province of British Columbia and the Department of Fisheries and Oceans.

Ten monitoring stations were set up for a one-year trial. The Chronolog service for the ten sites is \$1,000 US per year. Because Nanaimo is the first community in Canada to sign up for the service, a 50% discount was included and the service can be cancelled at any time. The City will monitor the level of engagement and reassess the use of the service at the end of the current term, April 2022.

Each monitoring station is made up of a post with a mounted frame oriented to a position from which a cell phone can take a photo of a restoration site, as well as an instruction sign explaining how to submit an image to the Chronolog service. Each monitoring station has a short write-up on each project and a time-lapse series of images that can be viewed on the City's webpage (see Attachment A).

The photo-monitoring stations have been installed in eight park locations. Two of the monitoring stations are located in parks where future work is anticipated. Six stations are located within existing restoration sites:

Station Number	Chronolog Location	Monitoring Focus
NAN-101	Chase River (John Barsby School)	Riparian restoration along the Chase River.
NAN-102	Linley Point Gyro	Reforestation of the setback area adjacent to an engineered wetland.
NAN-103	Departure Creek (Bay Street)	Re-alignment of a creek bed and re-establishment of riparian habitat.
NAN-105	Cat Stream (Third Street Park)	Phased removal of invasive English Hawthorn and replanting with a mix of native deciduous and conifer trees adjacent to wetlands that are the source of the Cat Stream.
NAN-107	Departure Creek (Woodstream Park)	In-stream and riparian restoration by SFN and Departure Bay Stream keepers to improve fish habitat and minimize stream bank erosion.
NAN-109	Chase River (Harewood Centennial)	Riparian restoration along the Chase River.

Monitoring station installed in anticipation of future restoration		
NAN-106	Millstone River (East Wellington Park)	A 12.7ha park within the Agricultural Land Reserve and adjacent to the Millstone River. The draft park plan proposes re-establishing the 30m riparian setback as well as opening the park to agricultural activity.
NAN-110	Cat Stream (Robyn's Park)	Future riparian and wetland restoration area adjacent to a neighbourhood ball field in the Harewood Neighbourhood.

## **CONCLUSION**

Changes in the environment are difficult to see and understand because they happen gradually. By engaging the public to help monitor this change in an interactive way, the chronolog photo-monitoring stations will help build connection between residents and their neighbourhood parks, and provide greater opportunity to learn more about the volunteer groups involved in the restoration work that will help build a more resilient and ecologically diverse park system for the future.

## **SUMMARY POINTS**

- Chronolog is an environmental photo monitoring project based in the United States that supports public environmental education by creating an online platform showcasing dozens of environmental restoration projects and producing time lapse videos from publicly-generated images of each restoration project.
- The monitoring station consist of a post with a mounted frame oriented to a position from which a cell phone can take a photo of a restoration site, as well as an instruction sign explaining how to submit an image to the Chronolog service. Each monitoring station has a short write-up on each project and a time-lapse series of images that can be viewed on the City's webpage.
- The use of the Chronolog service for the ten sites is \$1,000 US per year. Because Nanaimo is the first community in Canada to sign up for the service, a 50% discount was included and the service can be cancelled at any time. The City will monitor the level of engagement and reassess the use of the service at the end of the current term, April 2022.

## **ATTACHMENTS**

ATTACHMENT A: Links to Chronolog and City websites

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