10 October 2021

Summary of Activities 2020-2021

Overview

During the 2020-2021 year, the Coleridge Habitat Enhancement Trust's (CHET) key achievements have been:

- Conducting a survey of Australasian Crested Grebes in the catchment
- Commissioning a survey to look for the Canterbury Knobbled Weevil and other insects living in traditional knobbled weevil habitat
- Developing a plan for willow control that meets environmental regulations
- Contributing $10,000 to the DOC/LINZ Rakaia Trapping Project
- Refining CHET's project assessment process (developed the previous year to help manage and prioritise projects) and creating project management plans for 25 projects, although not all are currently active
- Continuing to maintain signs
- Continuing to support volunteer trappers and monitor their trapping results

More information about these activities and other work follows.

Relationships with stakeholders

The CHET Coordinator has continued to liaise on projects with the following key stakeholders:

- Landowners/Managers of Lake Coleridge Station, Glenthorne Station, Algidus Station, and the Murchison family
- Braided River Aid (BRaid) - in relation to bird protection signs; the annual braided river seminar
- Waimakariri Environment and Recreation Trust (WERT) - in relation to concerns about people causing environmental damage from vehicle use in the Korowai/Torlesse Tussocklands Park
- Department of Conservation (DOC) and Land Information NZ (LINZ) - in relation to predator trapping and monitoring river bird breeding success on the Rakaia River; Korowai/Torlesse Tussocklands Park protection
- Environment Canterbury (ECan) - in relation to the braided river weed control programme; CHET's willow control plans
- Selwyn District Council (SDC) biodiversity officers - in relation to CHET's willow control plans; crested grebe survey
- Lake Coleridge Tourism Group - in relation to visitor signage

Australasian Crested Grebe survey

In February, CHET coordinated a survey to count Australasian Crested Grebes in the catchment. The last surveys were done in 2014 and 2004.

A survey report is available via CHET, but in summary, 56 grebes were recorded in the 13 February 2021 survey of the Coleridge lakes - 46 adults (1 being estimated as present) and 10 juveniles. Grebes were counted on nine of the ten lakes surveyed. Fledged chicks were observed on half of the lakes surveyed.

As with the previous surveys, breeding success rate indicates low productivity – ie. if we assume 26 adults (13 pairs) nested from the total of 46 adults, the 10 juveniles observed represent 0.25 chicks per adult pair (note - it is likely there were more pairs among the adult grebes observed than were obvious and more chicks than were observed).

The low number of fledged chicks observed is a concern and more monitoring of grebe numbers in future years is recommended. CHET will determine how often the survey should be repeated in consultation with Rosalie Snoyink, who has a long history in crested grebe monitoring having coordinated the 2014 and 2004 nationwide surveys and provided assistance to CHET for the 2021 survey.

Several CHET Trustees were able to participate as volunteer counters for this survey and CHET is also very grateful to several landowners and farm managers who contributed volunteer labour and resources, as well as volunteers from SDC, the Ashburton arm of Forest & Brid and Trustpower.

Comparing 2021 grebe survey results in CHET's catchment with previous surveys in 2014 & 2004:

YEAR	2021	2014	2004
Adults	45	25	19
Juvenile	10	10	5
Estimated	1	2	1
TOTAL GREBES	**56**	**37**	**25**

Canterbury Knobbled Weevil survey

The last known population of this insect, which was once common throughout Canterbury, was discovered at Burkes Pass in South Canterbury in 2004. Since then, DOC staff reported potentially observing the species at Mt Oakden in 2008 (noted in *Lake Coleridge Opportunities* – a report written in 2009 for CHET by Wayne McCallum). A museum specimen believed to have been collected from near the Mt Oakden homestead in 1873 also exists.

Knobbled weevils live on *Aciphylla aurea* (Golden Spaniard/speargrass). Having just a single known location for the remaining knobbled weevil population means the species is at high risk of extinction from fire, weeds, climate change, herbivores and predators.

In general, insect and lizard populations around spear grass tend to be high because the plant offers protection from predators.

During 2020-2021, CHET commissioned Lincoln University entomologist Mike Bowie to conduct a survey to look for the weevil as well as for other species living in the same habitat. Mike has extensive previous involvement with protection of the Burkes Pass kobbled weevil population.

Mike was not given permission to access all the locations he had hoped, but still undertook surveying on Algidus and made observations at Oakden and Peak Hill.

While no knobbled weevils were found in Mike's 2021 survey, a large diversity of other insect species were. Mike has so far sent a draft report to CHET which notes:

- Spear grass flowering wasn't prolific during the 2020-21 summer, which may have impacted his results because the weevils feed on pollen.
- He believes he may have found two new species (a new beetle and a new springtail), samples of which have been sent for analysis.
- He found a wasp that has previously been considered to only live in coastal areas.
- Pig damage around spear grass plants is a particular risk for the plants and their insect and lizard populations and was observed by Mike during his surveying.

Mike's recommendations are for protection of remaining spear grass populations, including those along the Algidus roadside between Homestead Road and Peak Hill. He also recommends more invertebrate surveys in the Coleridge catchment given invertebrates are generally understudied in New Zealand.

Since the draft report was provided, Lake Coleridge and Peak Hill Stations funded a helicopter cull of pigs and fallow deer in August, removing at least 52 pigs from the Peak Hill and Mt Oakden areas and 20+ fallow deer.

CHET is expecting Mike to present his final report during 2021-2022 and will discuss his recommendations for further actions then.

Willow control

This year, CHET has progressed investigations to control crack willow spread in the catchment by undertaking substantial research into control options. This included a field trip involving DOC and SDC staff to seek their advice, as well as examining recommendations from similar projects around the country.

Because willows are predominantly around waterways, consent is needed to remove them to ensure environmental damage is minimized. CHET has investigated whether obtaining a global resource consent for this work is the best way forward (which would allow for more extensive willow control, but would require significant ecological assessment and monitoring), or if a better first step is to design the willow control to comply with permitted weed control conditions. CHET needs to ensure all the regulations within various government and local government legislation are met. High-level advice has been received from Environment Canterbury, plus CHET commissioned Boffa Miskell to provide more detailed advice.

Now that CHET fully understands its obligations, as well as which control methods are feasible and affordable for our situation, an 'Operational Plan' is being written with the hope that it will be approved by ECan and SDC for trial spraying in the Scamander Wetland and Lake Selfe in Autumn 2022.

Wilding pine control

CHET funded experimental drone spraying of wilding pines in the Scamander Wetland in April 2019, which appeared to have an impact on some of the trees but not all.

As part of investigation done prior to the spraying, it was observed that there are a very large number of small pine seedlings throughout the wetland, which are too small for drone spraying, but will need control in years to come. Control of the pines by a ground-crew was also assessed as extremely difficult because of the uneven, wetland terrain.

The Ministry of Primary Industries and ECan have been funded to manage wilding pine control elsewhere in the catchment over recent years and in 2020-2021 started their own experimenting with drone spraying pines in the wetland. CHET has therefore not progressed our drone spraying initiative further while we wait to see the results of their work.

Riverbed weed control

CHET is continuing to stay informed about the ECan/DOC-managed riverbed weed control programme in the region (called the Braided River Flagship Programme - BRFP).

During 2020-21, LINZ (which is also a partner in this project) received significant additional funding for their environmental work as part of the Jobs For Nature programme and is therefore increasing its contribution.

ECan says progress on weed control in the Upper Harper, Wilberforce and Rakaia Rivers is more obvious now after several years of focus in these areas. Consequently, spraying will continue to move further downstream.

CHET did not contribute financially to this project in the 2020-21 year, but both CHET and Trustpower have done so in the past and will consider doing so again if deemed useful.

Improving CHET's project planning process

CHET created a system to analyse and rank (ie. Trustees' collective assessment of priority) the numerous projects that the Trust has become involved in during 2019-2020 and this work has been completed and refined during 2020-21.

As part of this, a Project Management Plan template has been created, which helps the Trust with individual project planning and monitoring project outcomes. Project Management Plans have been set up for 25 projects, although some projects are not currently active and there is some overlap in desired outcomes between several projects.

The system is helping CHET to better manage workflow and keep track of all the different projects the Trust has an interest in. An annual review of the project list and occasional reconsideration of priorities is expected.

Vehicle damage in the Korowai/Torlesse Tussocklands Park

CHET has learnt more about vehicle damage occurring in this 21,000ha DOC-managed park, which includes Lake Lyndon and land considered part of CHET's catchment.

During 2020-21, CHET collaborated with the Waimakariri Environment and Recreation Trust (WERT) to discuss actions that can be taken to better protect the area. Particular concern is 4WD and off-road motorbike access, which has resulted in numerous tracks that have scarred the landscape throughout the park. There are also health and safety hazards caused by visitors hunting and target shooting given public access also allows walkers and mountain bikers into the park.

WERT and CHET have both expressed these concerns to DOC separately, and this year DOC started to improve fencing and signage to inform visitors of permitted activities and individuals' responsibilities. The success of these initiatives will become apparent in 2021-2022.

However, WERT believes there is also the need for a more sophisticated approach that still allows for public access but in a more responsible way to ensure long-term protection of the park's environment. CHET has offered to consider funding this work. WERT has identified Claire Newell as potentially able to do this. Claire is a professional ecologist who has an in-depth knowledge of the Lake Lyndon area and lives in Springfield. CHET looks forward to discussing proposals for this work with Claire in the coming year.

Eel protection

Protection of eels was ranked highly by CHET Trustees during the project assessment work over the past two years.

With CHET's remit being to protect habitats and species impacted by the operation of the power station, CHET has a keen interest in eel protection. However, when CHET was established, another Trust - the Eel Management Trust - was also formed to specifically focus on eel protection, so consequently CHET has not progressed projects specific to eels.

Unfortunately, the Eel Management Trust has not been very active for many years, but they did commission NIWA to do eel surveys in the catchment around 2014. However, they have been unwilling to share what was discovered or any other work they have been involved in. CHET has been pushing for more information on their activities for several years via Trustpower, which manages the Eel Management Trust alongside iwi. CHET's requests have been acknowledged with a recognition that the Eel Management Trust needs to be re-convened and reinvigorated. CHET will continue to express our interest in finding out more about the Eel Management Trust's activities to establish what actions CHET can take to protect eels.

Signage

A copy of CHET's '*beware river birds nesting season*' sign was erected at the Rakaia River access point below the Coleridge Power Station this year.

CHET also agreed to fund a higher-quality set of the '*braided river information panels'* and a copy of the '*beware river birds nesting*' sign for installation by Algidus near the Wilberforce River, along with an appropriate shelter for these signs. Cheaper corflute versions rapidly faded in this location, attributed to sun exposure and possibly strong winds that cause sand storms. The new shelter and signs are expected to be installed during 2021-22.

CHET also agreed to replace corflute signs that have faded in some other locations around the catchment with higher-quality versions. It seems corflute signs are only durable in less exposed sites. Replacement of these signs has however been delayed due to organisational changes in Trustpower, which this year split into a retail company, with ownership transferred to Mercury, and a power generation company that will trade under the new name Manawa Energy. Completion of this change is expected in early 2022 and ongoing support of CHET's work will continue via Manawa Energy going forward, and this new company's logo will be used on future CHET signs.

Meanwhile, Glenthorne Station has begun construction of structures to display CHET's *braided river information panels* at Harper Village, and the *grebe information sign* to be installed overlooking Lake Selfe, but this is still to be completed.

Predator Control

Volunteer trapping supported by CHET

Three volunteers have continued to look after a number of CHET and BRaid-sponsored DOC200 style and Timms traps. The traps are located around crested grebe nesting sites or riverbeds used by braided river birds for nesting in spring/summer.

Trapping results reported to the CHET Coordinator are below but may not represent all predators caught.

- **Harper Village area** (traps monitored by Trustpower's Brian Lancaster) = 1 possum, 2 ferrets. Note: Unfortunately, operational challenges during the year that included a fire at Trustpower's Harper Village office and substantial flooding damage in late May-early June, impacted Brian Lancaster's ability to maintain regular trapping and reporting of catches. However, trapping around the Harper area has been resurrected by Trustpower for the 2021-22 year.

- **Lakes Selfe, Evelyn, Georgina** (traps monitored by Rosalie Snoyink) = 13 stoats, 4 rats, 13 hedgehogs, 3 ferrets.

- **Lake Hill's Boat Harbour, Lake Coleridge** (traps monitored by David Murchison) = 5 stoats, 1 rat.

During the year, CHET discussed improvements that could be made to better support this volunteer-managed trapping activity. Progress on these improvements is planned for the 2021-22 year.

$10k towards Rakaia River Trapping managed by DOC

CHET contributed $10,000 to the Rakaia River Trapping programme that was managed by DOC during the 2020-21 year. This was the third year of this trapping programme, which has a six-year timeframe.

CHET has previously offered funds to support the programme but this was the first year they were accepted. CHET's contribution went towards black-backed gull control. This year more than double the previous year's number of gulls were culled.

The black-backed gull population in Canterbury is estimated at 120,000 and they predate on eggs and chicks of other river bird species. They are one of the most effective predators and because of their large numbers (a population that has successfully adapted to take advantage of farming expansion in Canterbury), they greatly threaten the survival of other river bird species.

The 2020-21 cull recovered 1,253 dead gulls, which does not include chicks and eggs which were also humanely destroyed during the operation. Next year (2021-22), Land Information NZ (LINZ) has received significantly more funds for environmental projects and is taking over and expanding the trapping operation, with DOC remaining involved in monitoring nesting success in the trapped areas. CHET has again offered funding toward the programme and is waiting to hear if it's wanted.

In terms of outcomes for the bird species that the trapping is designed to protect (primarily wrybill and black-fronted terns, but with benefits for dotterel, pied oyster catcher and others), DOC monitoring showed that the 2020-21 breeding season was okay for wrybill, with a fledgling success of 0.24 chicks per nest. This is at the upper end of the range recorded in the previous three seasons, which is encouraging, but whether this is sufficient to allow the population to recover remains to be seen.

Meanwhile unfortunately it was a very poor season for black-fronted terns again, with no fledglings recorded. The main tern colony this year formed just outside (downstream) of the predator control area, but was destroyed by flooding before official monitoring could begin.

Landowner trapping

Landowners continue each year to do significant trapping operations on their land, in particular to control numbers of possums, pigs and deer.

Events attended

- BRaid's annual seminar (14 July 2021) was attended by the CHET Coordinator, as well as CHET Trustpower representative Holly Simperingham and her colleague Ryan Kane and CHET's Forest & Bird representative Donna Field.

CHET Trustee Representatives

Below are the people who represented Trustee organisations during the 2020-21 year:

- Selwyn District Council - Councillor Bob Mugford (Chairperson)
- Trustpower - Holly Simperingham
- Department of Conservation – Kingsley Timpson

- Coleridge Farm Representative – Rebecca Rose
- Fish & Game - Tony Hawker
- Forest & Bird - Donna Field
- Coordinator – Toni Barlow
- Secretary – Judith Pascoe

Towards the end of the year, Tony Hawker resigned from his role at Fish & Game and so CHET will be seeking a replacement during 2021-22.

DOC has recently appointed a new Supervisor for the Arthur's Pass office who will replace Kingsley Timpson as the DOC representative in the 2021-22 year.

Trustpower was restructured during 2021, with its retail division including the Truspower name sold to Mercury. The remaining power generation assets will become known as Manawa Energy and this company will continue to support CHET going forward.

For more information:

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