Retaruke River / Manganui o te Ao River Whio Security Site

Operational Plan June 2009-2014

Department of Conservation
Te Papa Atawhai

Retaruke River / Manganui o te Ao River Whio Security Site

Operational Plan June 2009-2014

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Cover photo: Department of Conservation ranger Rufus Bristol recording whio data.
Photo: Jim Campbell

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CONTENT

1 Introduction

1.1 BACKGROUND

The catchments of the Retaruke and Manganui o te Ao Rivers combine to form one of four North Island security sites designated under the national Whio Recovery Plan 2007 - 2017 as a priority for whio management. These catchments and associated side streams support a large population of whio *Hymenolaimus malacorhynchos* (blue duck).

The Manganui o te Ao River has had a history of scientific studies dating back to Ogle's surveys for the Wildlife Service in 1980 and followed by a series of papers by a variety of scientists including Williams and Veltman in the 1980 - 90's. Ongoing surveys by the Lands and Survey Department then the Department of Conservation (DoC) were carried out by Pipiriki based Whanganui Area Office (WAO) staff

In 2003 intensive population monitoring began on a 10 km section of the Manganui o te Ao River as part of a five year study funded by the Central North Island Blue Duck Conservation Charitable Trust (CNIBDCCT) looking at the impacts of predator control on the whio population (Conservation Strategy for the blue duck (whio) in the central North Island 2004 - 2009). Blue duck productivity and survival was intensively monitored using banded birds. Predator control was started using three parallel trap lines with the centre line running along the river banks, the other lines running roughly parallel and approximately one kilometre apart.

In 2006, eight Security Sites were formed around the country as priority protection areas for whio. The target was set at 50 km of protected waterway maintaining 50 pairs of whio. Manganui o te Ao and the Retaruke River catchments fulfilled the criteria and were accepted.

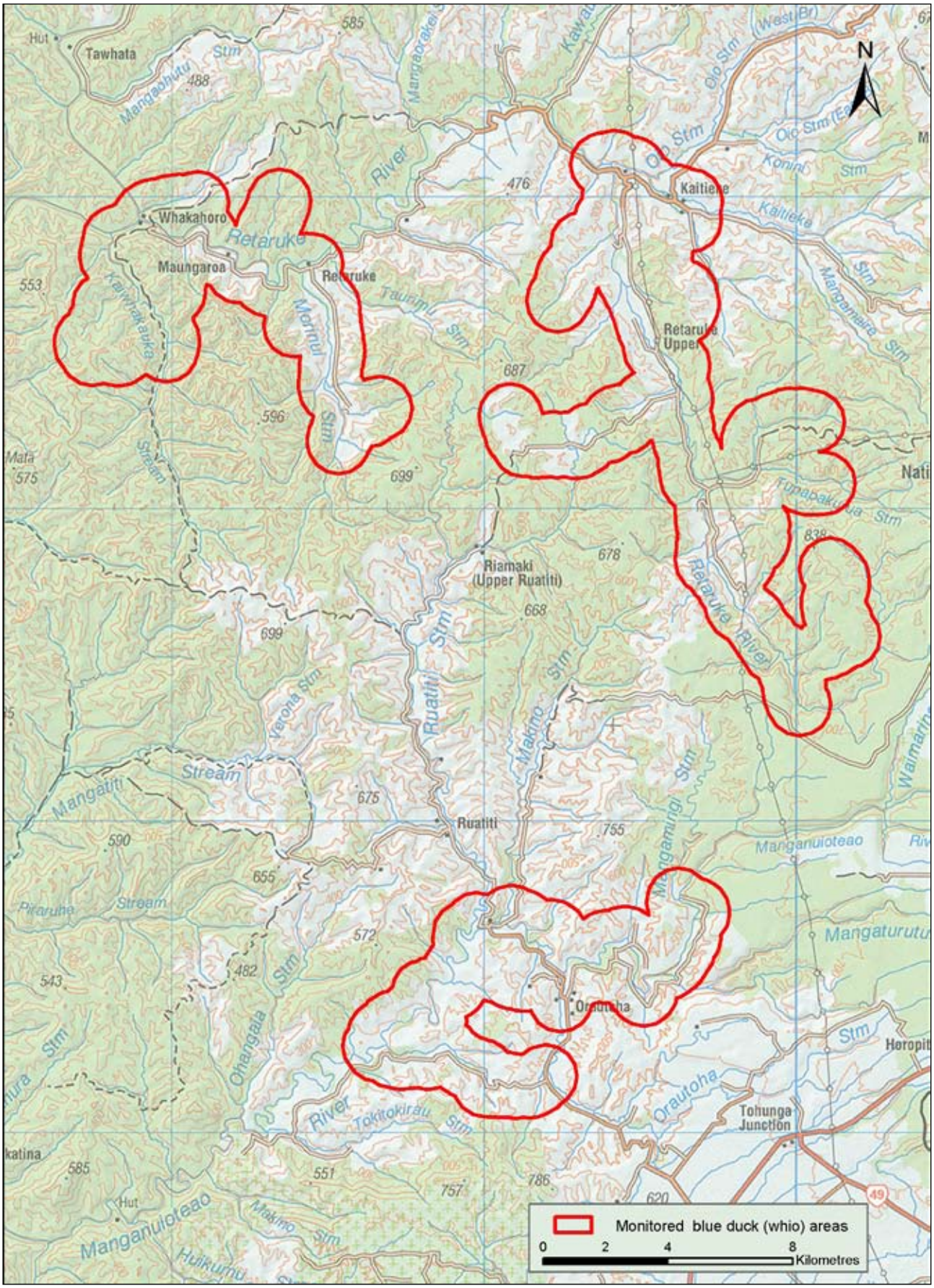
In 2008, the largest joint Regional Council/DoC biodiversity project 'Kia Wharite", covering some 90,000 ha of private land and 90,000 ha of public land, was formed. The whio protection project dovetails into this greater biodiversity programme.

1.2 OPERATIONAL AREA

The security site covers two catchments, whose headwaters are separated by less than one kilometre. Both flow into the Whanganui River though the individual confluences are approximately forty kilometres apart. Both rivers have extremely clean water especially in the headwaters, high quality benthic communities (see references – Bio-surveys) and broken water habitat that seem ideal for whio.

Initially, the main protection study site was a 10 km section of the Manganui o te Ao River (see Securing blue duck in the Central North Island, Technical Report No.1 - 2004-2005 for detailed information on the study area). Once the trapping (2004 - 2008 trap diagnosis report

FIGURE 1: THE MONITORED SECTIONS OF THE MANGANUI O TE AO AND THE RETARUKE RIVERS WITH ASSOCIATED WHIO RIVERS THAT BENEFIT FROM THE GREATER WAO PEST CONTROL PROGRAMME.



pending) regime was verified, 15 km of trap line extensions north and south of existing trap lines were planned and are being deployed as funding allows.

The Retaruke catchment flows north-west then west of the Manganui o te Ao River. In the both catchments there small parcels of public land, some land under covenant and some private reserve. The majority of the whio security area is held in private ownership. When all trap lines are completed around 35 km of the Retaruke and more than 25 km of the Manganui o te Ao Rivers will be trapped and monitored.

As well as the blue duck security site protection, pest control is undertaken on adjacent private land and 60,000 ha of Whanganui National Park (WNP). The combination of all three provides substantial area of protected rivers for juvenile.

1.3 OTHER BENEFIT SPECIES/ECOSYSTEMS

The trap lines run through a large variety of habitats from pure farm grassland to unlogged podocarp forest with a large variety of land tenure from private single owners, multiple iwi owners, collective organisations, companies, private reserves to public managed lands.

Land owners, tangata whenua and Regional Councils often have a holistic view of the ecosystem. The benefits to game bird (pheasants, ducks, quail etc) populations are considered just as important as native avian forest species. Also important is the improving water quality done through advocacy in riparian protection also associated with the project

While our trap lines are targeted at protecting whio the removal of mustelids, hedgehogs, rats and cats have a positive effect on other flora and fauna species. Whanganui National Park, other adjacent reserves and private bush blocks hold the largest North Island Brown Kiwi population in New Zealand, estimated between 6000 - 9000 kiwi. The whio protection trap-lines border the National Park in the Lower Retaruke and large reserves in the Upper Retaruke. The Manganui o te Ao River also has significant areas of bush. All these areas hold kiwi populations or are potential habitats. Other species that directly receive benefit from trapping include all the common forest birds, e.g. tui, bellbird, kereru whitehead etc as well as bush falcon, North Island wren, fernbird, robin, bittern, and grey duck. Under current management other species such as long and short-tail bats, insects and lizards should all show population benefits.

1.4 EXISTING MANAGEMENT (PRIOR TO 2009)

1080 operations

Although the WNP is not part of the Security Site it is adjacent to the Security Site and is important for dispersal and population expansion.

The WNP was part of a seven year rotational cycle of 1080. In 1995 - 1996, 2002 and 2007 the Kia Wharite area of the WNP received aerial drops. Subsequent drops will have a different strategy applied as our knowledge of the pest and bait improves. This year's drop is pre-fed, covers 31 690 ha at 2 kg per hectare and will be dropped to coincide with the breeding season.

In last 10 - 15 years private land within the security site has had regular possum control mainly for TB. Carried out by the Animal Health Board (AHB) and Horizons Regional Council it has kept the possum numbers very low over the two catchments.

Individual land owners have undertaken various pest control operations on their own land. From minor cat control to extensive predator control programmes over whole farms e.g. Tony Punch Safari Park and Steele Farms.

The Manganui o te Ao / Retaruke River Security Site is within the Animal Health Board (AHB) schedule for possum control as part of bovine tuberculosis vector control. Typically 1080 operations occur every five years, dependent on how quickly possums return to critical numbers

Predator trapping

Most of our whio Security Site is on private land with some small isolated sections of public reserve.

Possum numbers have been low in the last five years in both valleys, but recent accounts suggest an increasing population in some areas.

In 2004 after considerable discussion with local landowners, it was agreed that 10 km of predator trapping would begin along the Manganui o te Ao River's main stem for whio protection. By 2006, two 10 km outside lines were added. In the 2008/09 season discussions began with landowners to extend upstream and downstream to make a total of up to 35 km of river main stem protected. Trap deployment for the main stem was completed in May 2009 and the outside line deployment has been approved by the landowners and now is being put in place.

In 2005 a Retaruke landowner Dan Steele, whose Kaiwhakauka Valley farm is surrounded by National Park, received a Biodiversity Fund grant. Part of that grant initiated predator trapping on the lower Retaruke for whio and kiwi protection. With assistance from Whanganui Area Office (WAO) these lines have been slowly extended.

The joint Horizons / DoC Kai Wharite project has consolidated that effort and extended the operation into the Upper Retaruke. In September 2008, negotiations with the group of landowners and tangata whenua began. Most landowners and have agreed to allow a local contractor to deploy and service traps on their land.

Each protected river section has three lines (the tramline approach) - one line following the river, and one line either side of the river approximately one kilometre back from the river. DOC 200 double sets are used, 100 metres apart, checked fortnightly September- February and

monthly outside this period. Traps are set inside a standard wooden trap box as detailed on http://www.predatortraps.com. Traps boxes are baited either with hen's eggs or rabbit meat bait. The current predator trapping regime (Figure: 2) protects about 50 - 60 pairs.

Whio operation nest egg (WHIONE)

This is not an existing management approach for these sites. However, in the 2008/09 season, an attempt was made using a dog to locate nests in the lower Retaruke. This was unsuccessful and another attempt may be made from the Manganui o te Ao River if the conditions are favourable. These lifts are from one nest and are removed to provide stock for the captive breeding programme. Further whio genetic work should allow stock from other sites to be used in the captive breeding programme in the near future.

2 Goals / Objectives of the Plan

2.1 GOAL FOR SECURITY SITES

The following has been established as the goal for all Whio Security Sites:

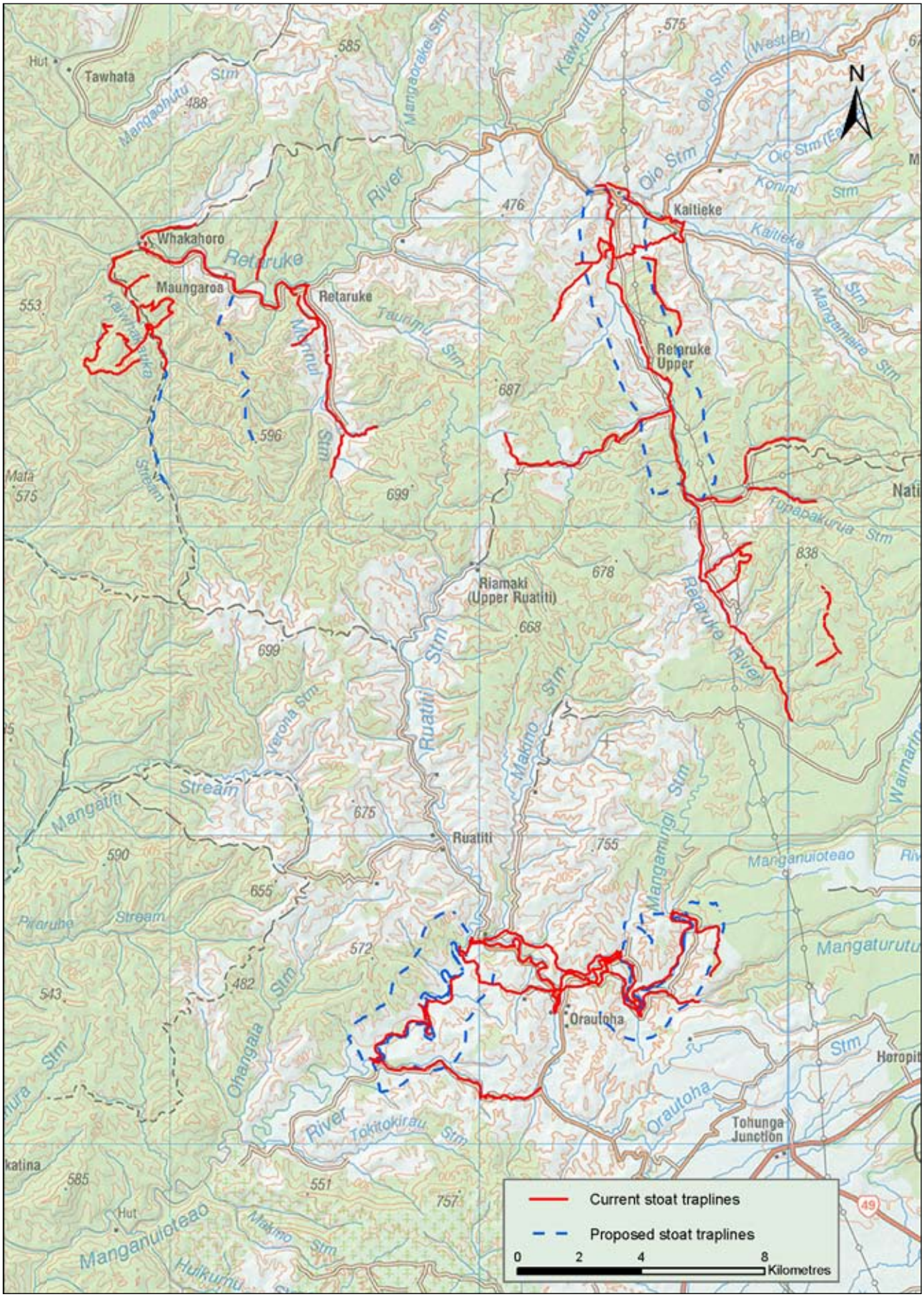
50 pairs secured within a predator controlled area within 10 years (by 2017).

2.2 OBJECTIVE FOR SECURITY SITES (5 YEAR)

The following has been established as the objective for the Retaruke/ Manganui o te Ao Security Site:

50 pairs secured within a predator controlled area within five years (by 2012).

FIGURE 2: MAP OF CURRENT AND PROPOSED TRAPLINES ON MANGANUI O TE AO RIVER AND RETARUKE RIVER, AS AT JUNE 2009.



3 Predator Control

3.1 STRATEGY

The management approach chosen for the Retaruke / Manganui o te Ao River security site for the next five years is to conduct predator trapping over three specific sites within the two catchments; Manganui o te Ao River, Upper Retaruke and Lower Retaruke with the total length of river being over 50 km, capable of supporting the 50 whio pairs.

3.2 METHODS

Stoat control

We aim to continue to maintain and expand the current number of traps. The current schedule of trap checks described above will be maintained where land owners agree, this equates to 18 trap checks a year. Stoat control will continue to follow best practice as specified in the Stoats-Kill Trapping Best Practice.

On the Manganui o te Ao River, the main stem trap lines are complete. The outside "tram- lines" will be extended with the aim of having the extensions completed in the 2009/2010 financial year, (Figure: 2).

On the Upper Retaruke, the terrain and landowner requirements have led to a revised "tramline pattern". The total number of traps will be roughly the same and coverage area is equivalent to the tramline pattern. Again, by end the 2009/2010 financial year it is thought all traps could be in place on the Lower Retaruke and final lines in place in 2010/11 season for the Upper Retaruke.

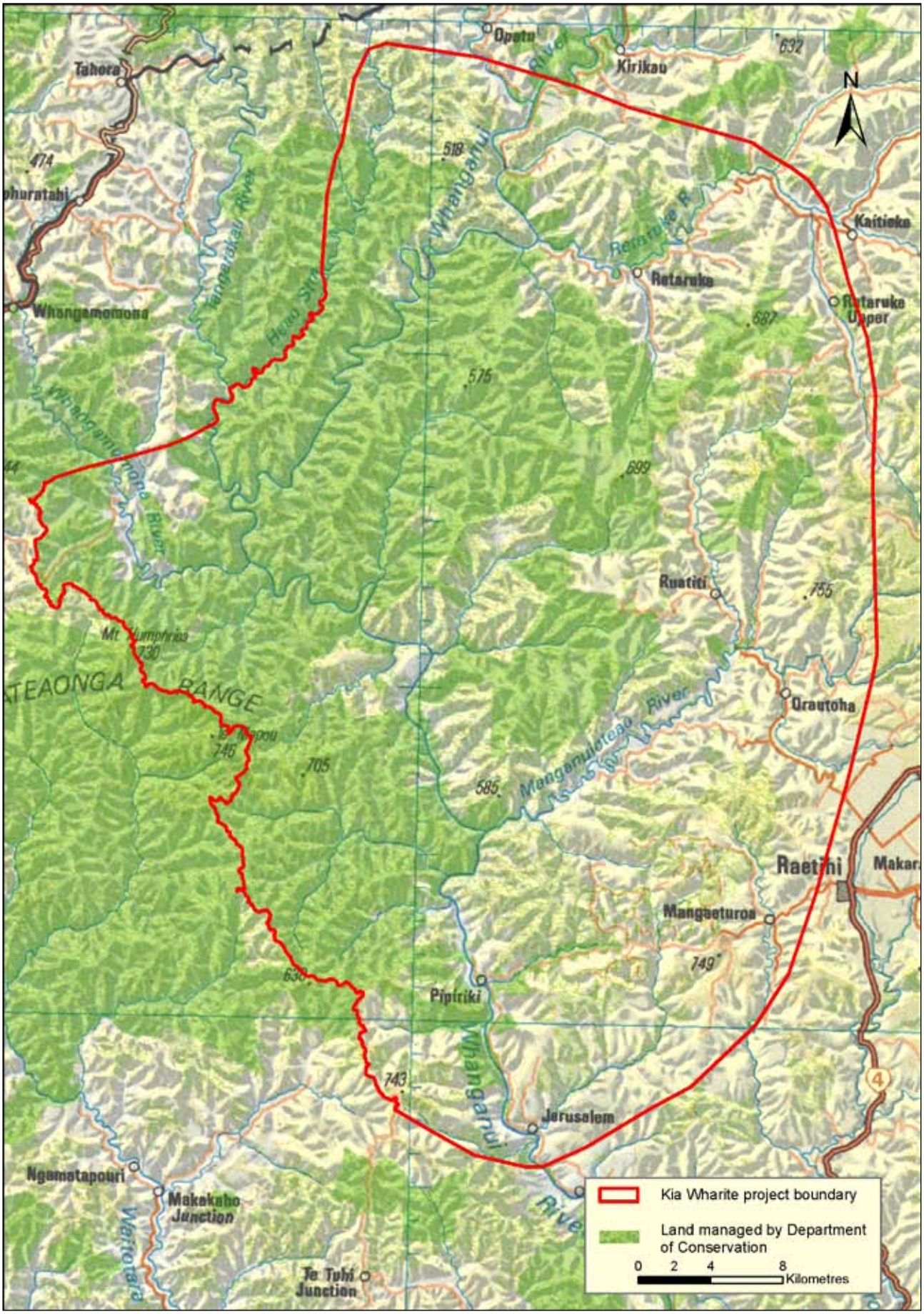
On the lower Retaruke, all traps have been in place for two years, but some refinement could be undertaken allowing a redistribution of some traps so covering a greater area.

Other- dogs, cats & ferrets

Appropriate control measures for other potential predators will be implemented as necessary.

The Ruatiti Domain, a favourite camping and fishing site on the Manganui o te Ao River attracts a lot of predators including dogs and cats intentionally or unintentionally released by their owners. There has been one confirmed dog predation of adult whio in the study area, although dogs are banned from the camping ground. Whanganui Area Office staff have recently completed training and are now qualified to run kiwi and whio aversion for dogs. Courses will now be offered to hunters and farmers in the surrounding districts. Cat traps are regularly set in known hotspots on the Manganui o te Ao and cat traps have been distributed to land owners on the Retaruke.

FIGURE 3: KIA WHARITE PROJECT AREA



1080 operations

The 1080 pest control operations in the Whanganui National Park have been modified to run on a 3 year cycle and pre-feed to align with the Kia Wharite project. The 2009 drop is centred on the Mangapurua / Kaiwhakauka Valleys (30,000hecs) which have resident whio populations. These valley systems are adjacent to the Manganui o te Ao and Retaruke catchments. It is expected this 1080 regime will not only benefit the resident pairs in the WNP but also the juveniles as they disperse into predator free habitats.

4 Monitoring

4.1 ENVIRONMENTAL MONITORING

Habitat sampling

The two whio study area rivers, Manganui o te Ao and Retaruke, underwent a periphyton and macroin vertebrate bioassessment in April 2008. The aim was to obtain a snapshot of the communities along three sampling points in each of the rivers. These surveys have given a baseline or indication of the former community if didymo (*didymosphenia geminata*) should become introduced. In addition, the sampling gave an indication of water quality changes along the length of the river systems.

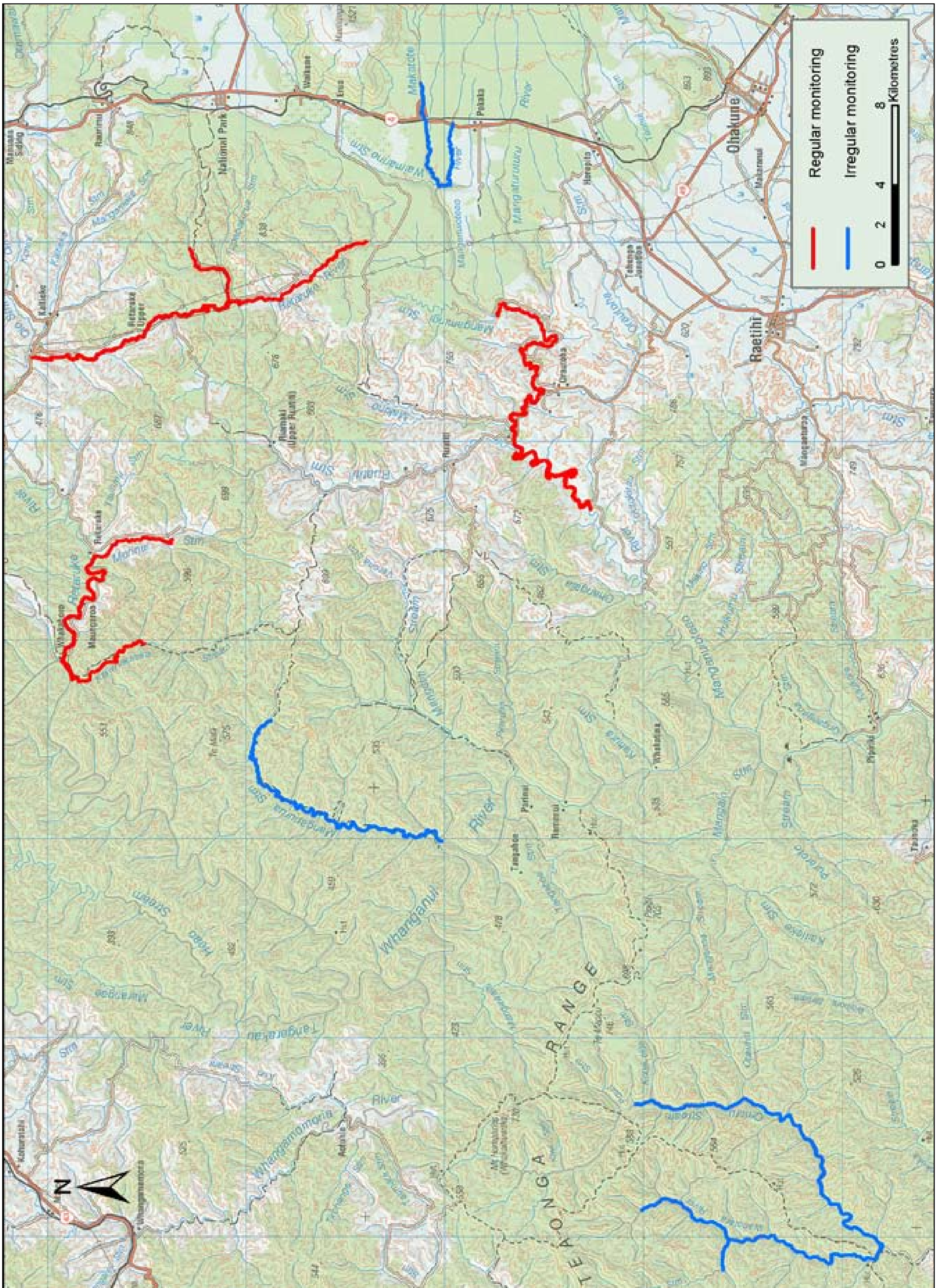
Didymo

Central North Island Rivers have been classified by Biosecurity New Zealand as a high risk for didymo incursion in the North Island. Routine monthly didymo surveys (using DNA sampling) are undertaken by DOC staff from Pipiriki. All samples are taken and analysed using best practice methodologies. The sampling regime may improve the likelihood of early detection of didymo.

The impacts of didymo for whio have not been studied with any scientific rigour. Didymo sampling will continue on a monthly basis for 2009/10. This will be reviewed annually.

A small modelling exercise was done looking at areas of likely didymo habitat overlaid with known whio feeding patterns. The outcome for whio from this excersise was bleak and predicted a significant negative impact (see internal paper by J. Campbell).

FIGURE 4: MAP OF MONITORED REACHES MANAGNUI/RETARUKE (INCLUDE IRREGULAR MONITORING ON THE MANGAPURUA, WAITOTARA/OMARU CATCHMENTS AND THE "VEE".



4.2 OUTCOME MONITORING

Length of monitored section

Approximately 35 km of the Manganui o te Ao River is monitored and is broken into three sections; Garety's to Hoihenga Bridge, Hoihenga Bridge to Ruatiti Domain, and the Ruatiti Domain to Thompsons Bridge (6.9 km on the Whakapapa, 6.6 km on the Mangatepopo and 14 km on the Whanganui)

Methodology

The whio population was initially banded with metal bands and individual colour combinations for the study to determine the success of the "tramline" pattern. This five year study is now completed and the report is pending. Birds in the Manganui o te Ao River have shown no ill effects from wearing bands.

Bands will be left on individuals to wear off naturally and the birds monitored. Bands will be removed if any sign of distress is shown.

For nest location purposes a sample of females had radio transmitters fitted for a short period one season but due to the high failure rate of the equipments they were removed. The skill level of the team was sufficient to locate nests without imposing on the birds to carry transmitters.

The following factors have led to a change in monitoring intensity; combining of the Manganui o te Ao and Retaruke Rivers into a single Security Site, the completion of the verification study and the extensions to monitored river sections.

From September to February, monthly monitoring surveys will collect sufficient data to report on pair density, adult survival, territory lengths, chicks to the river, and chick survival to fledging. This data will be bolstered by incidental sightings when trap lines are being serviced. Rivers are monitored irregularly from March - August in conjunction with trap-checks.

Outside of the core security site, monitoring is also carried out in the Makatoke / Manganui o te Ao "Vee" in the form of two or three surveys around November / December / January to collect a snapshot of breeding and adults numbers. Opportunistic surveys also happen in the Mangapurua and Kaiwhakauka Streams as time allows.

5 Other Whio Management

The Tongariro/Taupo Conservancy trialled the translocation of eggs with some success. Although not an existing management approach for any sites in the Whanganui Area, the emergency translocation of eggs at immediate risk would remain an option. No WHIONE is planned for these rivers while predator trapping remains a viable option for in-situ management.

The Whanganui Area will also continue to monitor human recreation impacts on rivers in the area, through advocacy with recreational river users. Landowners also assist in whio advocacy work.

6 Waitotara / Omaru Catchments

These catchments are located in the rugged and isolated Waitotara forests and part of the WNP. Unlogged forests completely cover the whole length of the Omaru Stream and 99% of the upper Waitotara River headwaters. It is a difficult four day survey in the best of conditions and due to the expense and rugged country it is only undertaken annually.

Three surveys have taken place in these catchments to determine any population trends and attempt to understand any breeding success.

The importance of the Waitotara/Omaru area nationally relates to its inaccessibility. If didymo establishes in the North Island the core Central North Island rivers are highly susceptible. These would include the Tongariro/Taupo river complex and the Manganui o te Ao River and Retaruke Rivers, all highly regarded and often visited by fishermen and tourists. It is presumed the Waitotara/Omaru, with its distinct lack of visitors may become the only didymo free system in the central North Island.

Several ideas are being proposed to increase whio protection to sustain a viable population. Surveys will provide a small amount of data and confirm numbers.

7 Administration

7.1 PROPOSED ESTABLISHMENT TIMING

In 2009/10 season, the aim is to complete trap line extensions in the Manganui o te Ao Valley by April 2010. Delays in trap deployment are expected due to weather and lambing. There are a little over 300 traps to bed in, label and gps on predetermined landowner approved routes. These extensions complete the "tram line" series for the Manganui o te Ao catchment.

The Retaruke has landowner approval for all but one section of the valley. Most trap line routes have had a preliminary survey and trap deployment has begun but will also be determined by weather, lambing and landowner preferences.

The same timeframe applies, April 2011 is a goal to complete all trap deployment. All central river trap lines are in place in both catchments.

7.2 STAFF AND ROLES

The success of this programme requires the commitment of competent and skilled operators whose efforts are coordinated in a cohesive way. These operators require a good knowledge of whio behaviour, the habitat and the overall plan/strategy to contribute effectively to it. The Whanganui Area Office whio team are:

TABLE 1: WHANGANUI AREA WHIO TEAM STAFF AND ROLES.

STAFF	ROLE	LOCATION
Jim Campbell	Programme manager- Biodiversity Assets	Whanganui Area Office, (WAO) Wanganui
Rufus Bristol	Whio Team Leader	Pipiriki Field Centre, (WAO) Pipiriki
Kane Low	Whio contractor	Pipiriki Field Centre, (WAO) Pipiriki
Tai Edmonds	Biodiversity ranger	Pipiriki Field Centre, (WAO) Pipiriki
Richard Taiaroa	Ranger	Taumarunui Field Centre, (WAO) Taumarunui
Leon Stratford	Contract trapper	Retaruke
Daniel Hurley	Bio Ranger – data/field support	Whanganui Area Office

7.3 INFORMATION MANAGEMENT AND REPORTING

Operating updates are produced for the Central North Island Blue Duck Conservation Charitable Trust (CNIBDCCT) in October, November, January and February, as well as an annual Technical Report in August.

The following are relevant documents pertaining to the Whanganui Whio Programme:

TABLE 2: KEY DOCUMENTS IN THE MANGANUI O TE AO /RETARUKE WHIO PROGRAMME.

REPORT	DOCDM LINK
Whio Recovery Plan 2007-2017	dme://docdm-281492/
Conservation Strategy for the blue duck (whio) in the central North Island 2004-2009	dme://olddm-257939/
Securing blue duck in the Central North Island, Technical Report No. 1: 2004-2005	dme://olddm-654426/
Securing blue duck in the Central North Island, Technical Report No. 2: 2005-2006	dme://docdm-50105/
Securing blue duck in the Central North Island, Technical Report No. 3: 2006-2007	dme://docdm-157048/
Securing blue duck in the Central North Island, Technical Report No. 4: 2007-2008	dme://docdm-321605/
Stoat- Kill Trapping Best Practice	dme://docdm-29448/
Blue Duck Best Practice Manual	dme://olddm-770375/

7.4 INFRASTRUCTURE

Access to the rivers and trap lines is often not far from the road but often requires crossing through private land. Access through private land is obtained and agreed upon with individual owners and managers. Consideration for lambing and other farm practices have to be taken into account. This may mean that access is not available at certain times of the year. Staff are in regular contact with owners and managers throughout the year. The Department tries to use as few different staff as possible, this allows for a more trusting relationship.

7.5 COMMUNITY RELATIONS AND ADVOCACY

There are a wide variety of stakeholders with different interests in whio conservation in the central North Island. These include hapu whose rohe encompass important whio rivers and / or regard whio as taonga, local communities and landowners living close to blue duck rivers, organisations involved in blue duck management and monitoring such as DoC, Enviro Research, the Central North Island Blue Duck Charitable Trust, river-users such as Genesis Power Ltd, kayakers, anglers and rafters, and local schools.

See the Conservation Strategy for blue duck in the central North Island 2004-2009, which outlines aims and actions that will be initiated in order to engage these key stakeholders.

7.6 HEALTH AND SAFETY

Health and safety is of the highest priority and DOC will ensure that Health and Safety Plans are in place and that staff and volunteers are competent. Any incidents or near-misses will be reported (https://www.riskmanager.co.nz/)

and corrective measures put in place to prevent recurrences. All staff and contractors will hold current first aid certificates.

When carrying out whio field work all staff and contractors use a radio call in and call out method and a have Hazard Plan.

Relevant SOPs and safety guidelines that will be followed include:

- On road and 4x4 driving competencies
- River rescue and crossings training undertaken
- Basic Field skills

7.7 CONSENTS

All banding operations are covered by permits authorised under the Wildlife Regulations 1955. All staff working with whio are listed on the national Whio Training Registrar.

8 Budgets

The Manganui o te Ao / Retaruke Whio Programme is managed by Whanganui Area Office but has three different funding streams. The Manganui o te Ao River is partially funded by the Central North Island Blue Duck Charitable Trust, with the remainder being funded by the Department. The Retaruke site has funding from DoC and Horizons' Regional Council as part of the Kia Wharite project and input in kind from local landowners. Steele Farms also run a volunteer scheme to assist with trapping and monitoring whio on the lower Retaruke.

9 Acknowledgements

The work detailed in this report would not have been possible without the generous support of the Central North Island Blue Duck Charitable Trust.

DOC Whanganui gratefully acknowledges the support and cooperation from Landowners and managers for access along the Manganui o te Ao River including the following families; Fahey, Merson, McNee, Volkerling, Deadman, Oliver, Graeme,

The Department of Conservation is grateful for the assistance, advice and blessing from iwi for the work on the Rivers.

Invaluable assistance, reminders, copy and advice from the indefatigable Alison Beath, and the support from the Blue Duck recovery group leader Andy Glaser.

Thanks for the ongoing interest from the teachers, helpers and students at Orautoha and Kaitieke Schools.

Thanks to Connie Norgate for the public relations work and the assistance with the newsletters and other support.

Land owners and farmers from the Retaruke catchment including all farmers of the Upper Retaruke namely; Ross Green, Tim Graeme, Clarke Taylor, Dean Wilson, Trevor Couper, Baldy Haitana and other tangata whenua land owners, Dean Collins, Tony Punch, Greg Shaw, Bryan Macannelly, Jason Smalley, Dr Keith Buswell, and the Forest Heritage Restoration Trust.

A special mention for the efforts put in by the family members and employees of Steele Farms and their volunteers with their biodiversity protection initiatives.

Also thanks to those who have assisted the project but have been inadvertently missed of the list.

Whanganui Area Office would like to acknowledge the advice and support from Sue Jones who produced the maps and Peter Lock for photo and document formatting and printing.

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