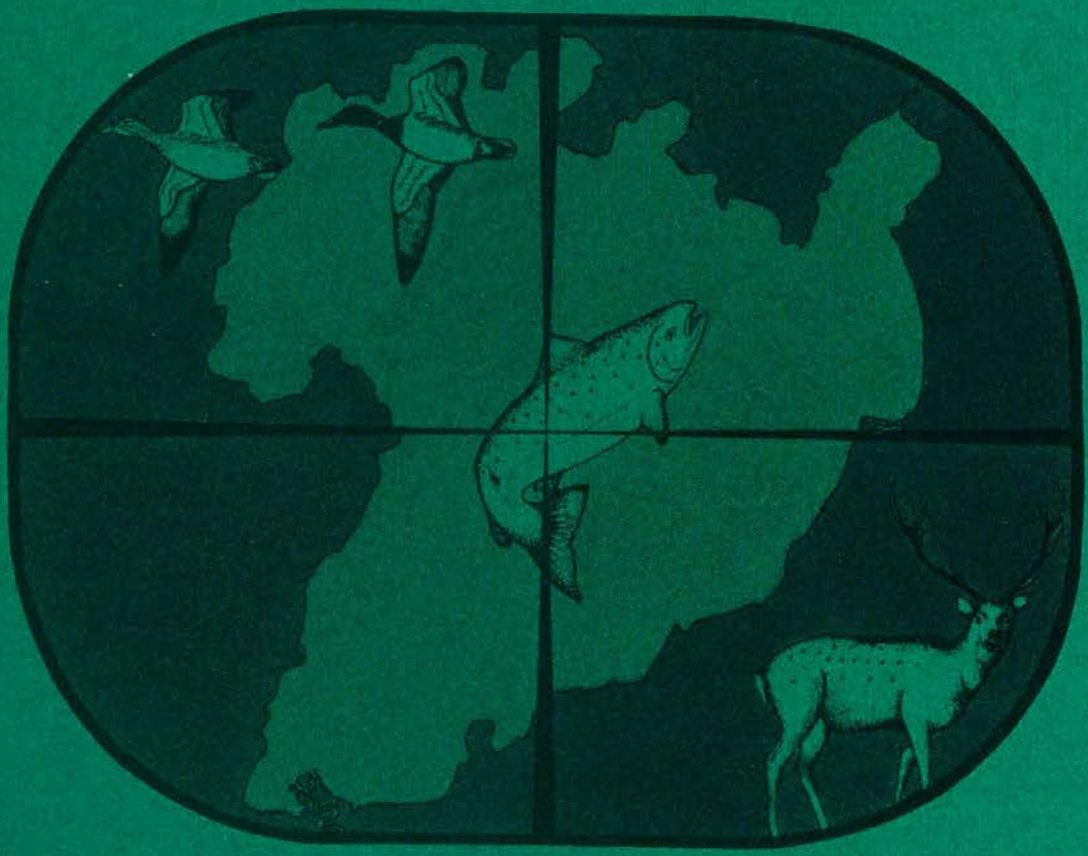
JULY 1993
ISSUE 13

TARGET TAUPO

A Newsletter for Hunters and Anglers in the Tongariro / Taupo Conservancy



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TARGET TAUPO

A Newsletter for Hunters and Anglers in the Tongariro/Taupo Conservancy

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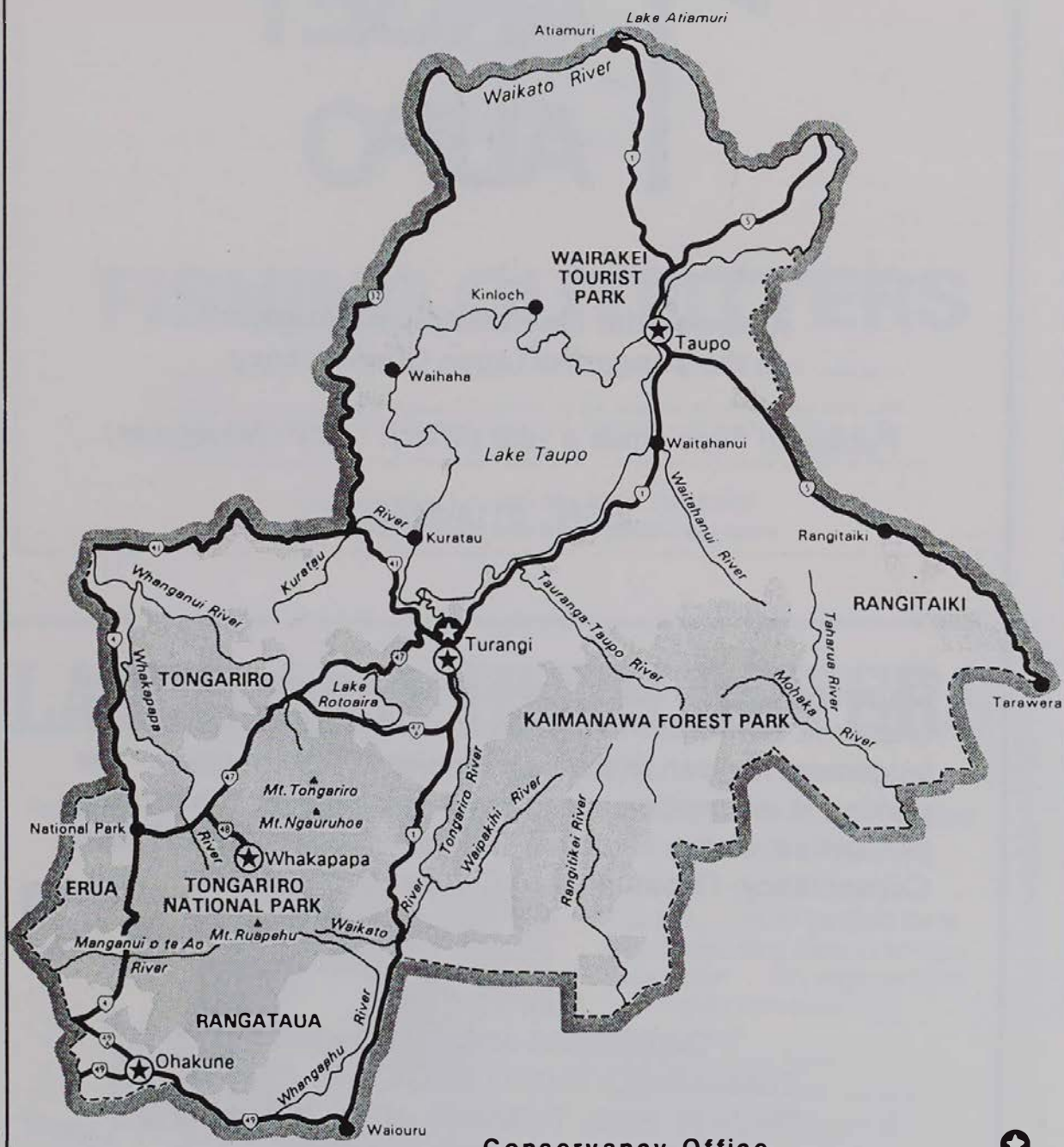

CONSERVATION
TE PAPA ATAWHAI

DEAR ANGLERS AND HUNTERS

When we started the magazine four years ago this month, we were a little apprehensive about our ability to keep up a steady supply of interesting articles on a regular basis. Our original intention was - and still is - to develop a platform to provide information about the resources, management and opportunities available to trout anglers and big game hunters in the central North Island. If we could do this in an entertaining way, all the better.

Judging by the comments from regular readers and the interest from a growing number of new subscribers we might just be getting close. We hope you enjoy our increased content and improved format.

While the team here at DOC, Turangi, still hasn't run dry of ideas we welcome your feedback and suggestions for articles that address your questions and interests.

Recently we produced a special supplement of Target Taupo covering trials we have done on the use of downriggers. We encourage you to read this carefully and return the completed questionnaire with your views. More on this issue and how to obtain a copy of the report inside.

The winter river fishing has got off to a great start after yet another autumn drought. Top performers have been the Tongariro and Tauranga-Taupo rivers, while the Waitahanui has produced better than in recent years.

With regular rain forecast for the next month or more, anglers can look forward to continued good runs of prime-conditioned trout.

Meanwhile, keen hunters shouldn't overlook the sheltered, sunny bush faces for a winter sika deer stalk.

Good luck with your sporting endeavours.

John Gibbs
Fishery Manager

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Information about illegal activities is only of use when it is passed on immediately.

Please contact compliance staff:

Wayne Boness, Taupo Phone 378 5450 (work), 377 0112 (home);
Bryan Taylor, Turangi Phone 376 8607 (work), 386 6549 (home);
Sid Puia, Turangi Phone 386 8607 (work), 386 6700 (home);
or Conservancy Duty Officer Phone 386 8607 after hours.

ANYTIME

YOUR VIEWS

The article "Understanding the Deer Population of the Kaimanawa Range" which appeared in Issue 12 prompted a number of our readers to put their views on the subject. While not all agreed with all aspects of the article, comment generally supported the underlying principles.

One of the more significant responses came from Mavis Davidson, who undertook a major research project on sika deer in the Oamaru area during the 1960s. Mavis has kindly allowed us to reprint parts of her letter, some of which add an important new perspective to the subject.

"Thank you for March Issue 12 of Target Taupo publishing your excellent paper on sika deer. I am sure that if hunters read it carefully, and thoughtfully, it will certainly give them a real insight into the dynamics of deer populations in the Kaimanawas. For some at least, it should reduce frustration with what they see as restrictive measures, and encourage co-operation in your management of the herds.

I was very interested in your report of deer dying in the mountain beech - a hungry habitat - particularly in the Kaweka. I have no recollection of any reports like that from my time - 1962-66 in the Oamaru, to 1974 in the south Kaweka - maybe my hunters did not get far enough back, though Morrie Robson's professional hunters were pretty wide ranging. This NZFS control, of course, and the venison recovery operations, are now gone, and with severe winters in addition, would result in the boom and bust of populations you mention on page 25. (A while ago I heard a rumour that there was a build-up on Venison Top in the Kaweka).

Incidentally, was it possible for you to have met records for the Kaimanawa and Kaweka during 1990/1992? We did have a little met station in the Oamaru during my time there - I could supply the results if they are of any interest or use to you. I wonder what the snowfalls were like in the 1990/1992 winters? BROMLEY (1961) - Copy of 'Conclusions' enclosed - considers snow is disastrous for sika - that it is the chief factor influencing their distribution:

'..... Spotted deer chiefly inhabit broadleaf forests in areas with a temperate climate. Wapiti go up high in the mountains, occupying even zones of the fir and silver-fir taiga and the "slanting forests", tolerating well the continental

climate of the upper stretches of the mountains in winter. The spotted deer are less well adapted to "disastrous" snow winters and in such winters up to 50% perish. In such cases wapiti inhabiting mountain ridges where they find bare surfaces cleared of snow by the winds pass the winter successfully. In profuse snow only the young succumb, and then only a few of them. Spotted deer are also inferior to wapiti with regard to motion over snow. Wapiti successfully cross snow 60-70 cm deep, whereas spotted deer in such cases sink to the belly in the snow, leaving behind a continuous furrow. Of natural food spotted deer chiefly eat leaves of trees and to a lesser extent, herbaceous vegetation. Even light snow prevents their access to most of the food lying on the ground .....

..... The snow cover is the chief factor influencing the distribution of spotted deer. The character, time of appearance, thawing, and height of the snow determine the distribution of the spotted deer in the Maritime Territory. An indirect factor affecting the distribution of the deer is the relief and the northwest wind. Deep snow and wind often form high snow drifts on the passes which "imprison" the deer in small feeding stands on the sunny slopes. Deer avoid places with a permanent snow cover in winter .....

..... The principal causes of the death of spotted deer are attacks by grey wolves and periodic heavy snowfalls. In certain winters with heavy snows, 10-50% of the spotted deer may perish. Wolves in the Maritime Territory each year kill 5-30% of the deer .....'

(Extract from : BROMLEY, G.F -"Ecology of the Wild Spotted Deer in the Maritime Territory" (South Eastern Russia))

On your page 26 'Provided the deer and the habitat are in good condition it could be argued that there is no need to know how many animals there are'. Yes, I have said that, and I agree with your further comment, '... also leads to population adjustments being made to a situation that has already occurred rather than predicting a situation and acting before it happens'. I was reminded of a closing remark in an old paper on Tararua red deer, 'The killing of deer after forest has deteriorated does not constitute control; trends of deer herds need to be anticipated'. (DAVIDSON, Mavis M. & KEAN, R.I., 1960 - 'Establishment of Red Deer Range in the Tararua Mountains', N.Z.J. For. 8(2):293-310 + Appendix).

On page 30 you mention, 'These animals are inexperienced and are often fending for themselves for the first time after being driven away by their mothers'. I know that being driven away by their mothers is accepted as normal behaviour, but do not know of, or have forgotten, if there is good documented evidence of its occurrence - do you know of any? I have thought about and looked for this during my time in the Oamaru, but the only instance

which might have come within this category was a sika hind giving a hurry-up to a young male of nearly two years which had stayed with the hind group. He did not seem concerned, and wandered off and grazed with his yearling cobbers. On another occasion, a yearling opposite the hide who had not been engaged in any aggro, left all the grazing deer and walked steadily, without stopping, right away up to the far end of the flats and disappeared. Of course, I do not know if he came back. From my observing, I got the impression that the dam/male yearling bond is broken by the male yearling itself, but overall I feel that much deer behaviour is too subtle to be detected by mere humans.

Aldo Leopold was a man with great vision, an inspiration to all biologists surely.

You are doing a great job down there, and I hope that you will get the help and encouragement you need to continue good management of the Kaimanawa deer herds.

Sincerely

Mavis M. Davidson"

THE DIET OF JUVENILE TROUT IN THE TONGARIRO RIVER

The production of adult trout in the Taupo fishery is limited by the number of young trout which are able to survive and grow in the tributary rivers and streams.

Recent studies have shown that in Taupo, the juvenile trout must reach a threshold size before they leave the river to be able to survive in the lake. To grow in the river they need a suitable rearing habitat providing a balance of food and shelter. The juvenile trout must find a habitat where they can have access to food but also enough shelter that they can use some of the energy provided by the food to grow rather than simply to maintain their position in the current. A reluctance to share their spot with other juveniles causes territorial behaviour among the young trout. If there is enough food the total number of juveniles will be limited by the space in the river suitable for them. On the other hand if there is more than enough suitable space the number will be limited by the available food.

The river bed contains a variety of organisms which are eaten by juvenile trout. The diversity of insects present in the gravel is a reflection of the quality of the river. Fast flowing, coarse river beds will be inhabited by insects which are not present in slow water and vice versa. The majority of insects have to leave the water to reproduce. Others will be dislodged from the bottom by the current. At some stage both types will be drifting and the juvenile trout feed mainly on these drifting organisms.

Theo Stephens' report on trout production in the Tongariro River showed that the maximum density of juveniles occurs in December and he suggested that at this time of the year the food could be a limiting factor to juvenile growth and numbers. Therefore during last December we carried out a study of the insects present in the substrate (bed material), in the drift and of those being eaten by the juvenile trout. The aim of this study was to compare the insect species present in the gravel of slow, medium and fast flowing water. We also wanted to assess if the drift was constant during the day or if it peaks during certain times. Finally we wanted to determine what the trout eat, what they prefer to eat (are they selective?) and finally to try to determine which sort of water is likely to be the most suitable to produce the preferred trout food.

To do this we collected five invertebrate (insect) samples in slow, medium and fast flowing water sections in Judges Pool in the Tongariro River. During the

same day we collected the drifting invertebrates at dawn, midday and dusk. Finally we captured, by electric fishing, 20 juvenile trout at dawn, midday and dusk in fast and slow water. The fish were killed and the content of their guts analysed.

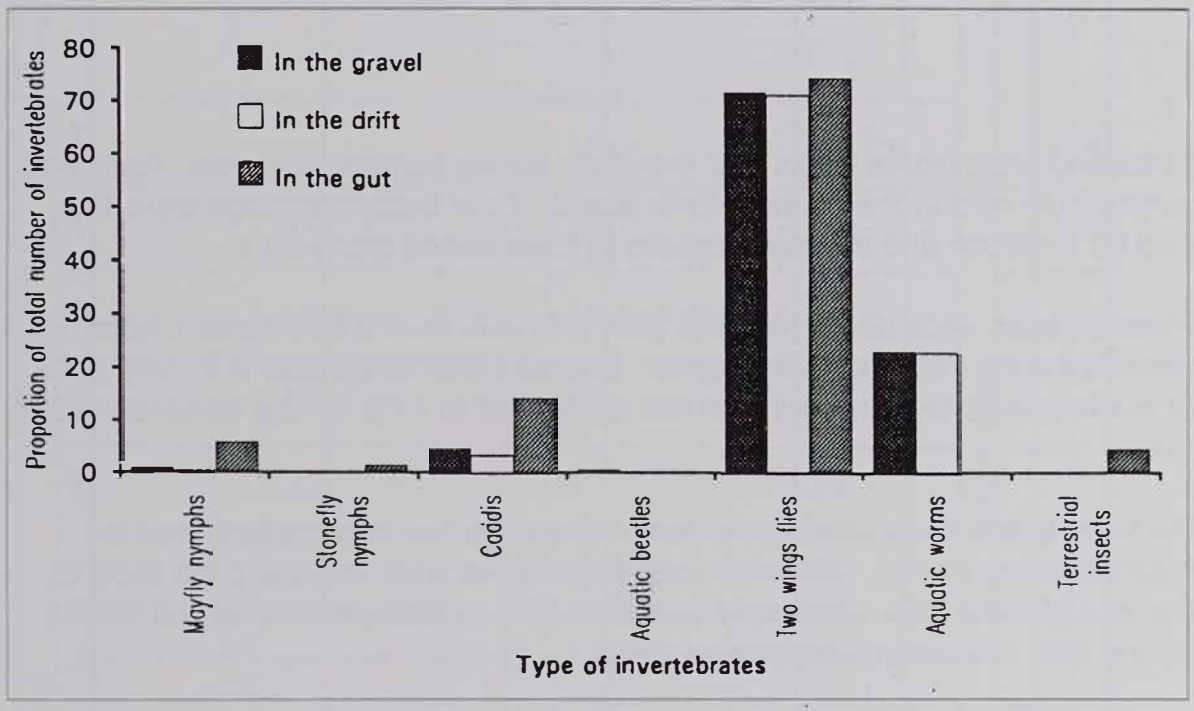
Juvenile trout were collected using a generator powered electric fishing machine. (Photograph : Len Birch)

The proportions of the principal types of invertebrates present in the gravel, in the drift and in the trout gut are presented on the graph opposite.

What does this mean?

The principal types of insects present in the gravel in order of significance were the two-winged flies (Diptera), followed by worms (Oligocheta), caddisflies (Trichoptera), mayfly nymphs (Ephemeroptera) and very few stonefly nymphs (Plecoptera). In the drift the same grouping of invertebrates occurred. We found that the drift was slightly larger at dawn and dusk than during the rest of the day. However these differences were not as big as some reported in overseas studies. The bulk of the trout gut contents was still made up of two-winged flies, but the proportions of caddisflies, mayflies, stoneflies and terrestrial insects like willow grubs, ants, bees and manuka beetles were bigger than what they were in the gravel and in the drift. The worms, numerous in the gravel and in the drift, were not eaten by trout. From these results we can determine the trout's preferred food. We find that young trout are really keen on caddisflies (four star tucker), certain mayfly species

(three star tucker) and certain two-winged fly species (two star tucker). The number of stoneflies present in the samples was not large enough to determine just how much trout like them.



Proportions of different insects in the gravel, drift and gut taken by juvenile trout.

Juvenile trout don't like and have a great avoidance of worms coming from the gravel. The results suggest that the young trout feed mainly on two-winged flies because they are so abundant, but try to catch as many caddisflies as possible. If the larger caddisflies are as easy to catch as the two-winged flies, the energy provided by the digestion of the caddisflies will be greater. It seems that the juvenile trout appear to search for the big prey first and complete their diet with smaller items. In this respect a lack of big items could be limiting to the growth of young trout at this time of the year.

Because the juvenile trout can still afford to be picky about their diet, this suggests there is enough food of some sort for all trout. Nevertheless we are not able to determine at what stage the growth of trout would be limited. We found that there are more caddisflies present in the fast flowing water than in slow water on one hand and on the other there are more worms present in the gravel of slow water. It is possible increased flows over summer will result in more fast water and more good food for the juvenile trout. However if the flow is increased this might cause a reduction in the amount of habitat suitable for juvenile trout. In other words the actual problem is to know what is the best option - having few juveniles growing fast or a lot of juveniles growing not so fast? The next steps in our investigations will endeavour to shed more light on this dilemma. ■

AUTUMN HUNTING SUMMARY

Following unseasonal frosts and snowfalls during summer this year, April was surprisingly mild in the central North Island. Cold frosty mornings were few and far between and the rain appears to have ruined many trips.

Permit issues were down 14% this year with less than 2,800 hunters obtaining permits for the February-May period. Success was down also with only 38% of hunters reporting one or more kills compared to 47% for the same period in 1992.

Perhaps a lack of success is the main reason so few hunters bothered to return hunting diaries. Although over 500 diaries went into the prize draw at the end of June, this represents less than 20% of total permits issued for the period and is a very disappointing result.

A number of points have come to light from the information received, which is summarised in Table I.

It appears the red deer roar in western parts of the conservancy was a little disappointing for many hunters this year. Some very nice stags were taken in late March but generally the April harvest was poor. The exception was the southern part of Tongariro National Park which appeared to produce well this year, as it did in spring. In the Kaimanawas, hunting success seems to have peaked in the week following Easter, once the rain cleared, albeit for just a few short days. Harvests were generally down in the Kaimanawa RHA.

The sika roar appears to have been a stop-start affair in many localities, however some good heads were taken as evidenced by the number of fine sika trophies entered in the competition. Only on occasional days did the japs roar well but this spasmodic activity continued well into May and even June in some areas.

Significant comment was received about the large harvest taken in the Boyd area over the late summer/autumn period. The majority of these animals were taken by three local hunters using dogs to chase deer out of the manuka into the open where they could be shot. Most comment was very negative and focused on the ethics of such a practice. Following investigations into numerous allegations however, the Department could find no grounds on which to take any legal action. While the Department of Conservation can

TABLE 1

FEBRUARY - MAY 1993

AREA	BLOCK	DAYS HUNTED	ENCOUNTERS				KILLS				KILLS/PER DAY
			SIKA	RED	PIG	GOAT	SIKA	RED	PIG	GOAT	
KAIMANAWA RECREATIONAL HUNTING AREA	Clements	441.0	266	7	10	-	61	-	2	-	0.143
	Hinemaiaia	24.0	9	1	-	-	1	-	-	-	-
	Cascade	79.0	44	9	-	-	16	1	-	-	0.203
	Kaipo	39.0	29	-	-	-	3	-	-	-	0.077
	Oamaru	78.0	99	1	-	-	15	1	-	-	0.202
	Tikitiki	8.0	12	-	-	-	1	-	-	-	0.125
	Te Iringa	24.0	13	-	-	-	4	-	-	-	0.166
	Jap Creek	5.0	9	-	-	-	-	-	-	-	-
	Upper Oamaru	41.0	48	-	-	-	10	-	-	-	0.244
	ALL	756	524	18	10	-	114	2	2	-	0.166
	1992 FIGURES	749.5	689	33	6	-	145	13	4	-	0.216
KAIMANAWA FOREST PARK (excluding RHA)	Waipakihi	191.0	119	76	3	-	40	22	-	-	0.324
	Desert Road	24.5	34	2	-	-	8	1	-	-	0.367
	Access 10	13.0	7	5	-	-	2	1	-	-	0.231
	Umukaritari	7.0	2	-	-	-	-	-	-	-	-
	Mount Urchin	8.0	2	4	-	-	-	-	-	-	-
	Waiotaka/Whitikau	48.0	10	35	1	-	6	15	1	-	0.478
	Waimarino	5.0	3	1	-	-	1	-	-	-	0.200
	Kiko Road/Tauranga-Taupo	92.0	83	12	1	-	21	5	1	-	0.293
	Tiraki	8.0	6	-	-	-	2	-	-	-	0.250
	Rangitikei	33.0	13	26	-	-	5	11	-	-	0.455
	Ecology	-	-	-	-	-	-	-	-	-	-
	Ngamoro	130.0	46	3	-	-	79	2	-	-	*0.623
	ALL	561.0	329	175	7	-	186	59	6	-	0.396
	1992 FIGURES	783.0	437	334	2	-	109	86	1	-	0.250
TONGARIRO NATIONAL PARK	Rangateua	35.5	2	55	1	-	1	17	-	-	0.507
	Ohakune	43.5	-	22	-	-	-	6	-	-	0.138
	Southwest	39.0	-	39	-	-	-	22	-	-	0.564
	Hauhangaten	7.5	-	11	-	-	-	3	-	-	0.400
	Whakapapa	26.5	-	56	-	-	-	10	-	-	0.351
	Pihanga/Tihia	20.0	-	11	1	-	-	6	1	-	0.428
	Desert Road	14.0	3	-	-	-	-	-	-	-	-
	ALL	220.0	7	231	2	-	1	77	1	-	0.359
	1992 FIGURES	291.5	13	159	4	-	7	77	3	-	0.298
TONGARIRO FOREST	ALL	282.5	7	110	-	125	-	42	-	19	0.232
	1992 FIGURES	287.5	-	111	7	74	-	64	-	11	0.219
ERUA FOREST	ALL	20.5	-	4	-	36	-	3	-	17	0.976
	1992 FIGURES	57.5	-	32	-	77	-	11	-	34	0.783
RANGITAIKI FOREST	ALL	58.5	26	16	3	-	11	4	1	-	0.283
	1992 FIGURES	21.5	11	4	-	-	7	-	-	-	0.326
LAKESHORE RESERVES	ALL	NO DATA RECEIVED									
UNSPECIFIED RETURNS	WHOLE CONSERVANCY	157	-	-	-	-	11	33	4	-	0.306
TOTALS	WHOLE CONSERVANCY	2,054.5	-	-	-	-	303	220	15	36	
	1992 FIGURES	2,446.5	-	-	-	-	275	279	21	46	

Tongariro/Taupo Conservancy Recreational Hunting Summary.

influence hunter behaviour by enforcing the law where hunters fail to comply, personal hunting ethics are something it has little influence over. As a result of the recent activity, animal numbers in the Boyd area will be down for a few seasons and hunters who are looking for a handy deer might be well advised to look elsewhere. The plus side is that an improvement in habitat condition will have longer term benefits for all wildlife.

The Waipakihi Valley area, as suggested in the March issue, produced very well through autumn following lower than usual hunting pressure over the wet spring/summer period. Interestingly, pigs have started to show up in the valley with a 200-lb boar taken in early May and several other sightings reported. Recent pig sign along the upper Tongariro River suggest pigs are dispersing south in small numbers from the pine plantations around Turangi.

Thanks to all hunters who returned diaries. The poor return rate is the source of constant frustration for management so if you have a diary or know someone who has not submitted one, we encourage you to help us out. Winners of the diary prize draw for the February-May 1993 period are as follows:

AIR TRANSPORT WITH HELISIKA: *G N Burgess, Hamilton*

AIR TRANSPORT WITH LAKELAND HELICOPTERS: *B Cotterell, Te Awamutu*

AIR TRANSPORT WITH AIR CHARTER TAUPO: *Terry Wright, Raglan*

$100 OF FLY & GUN SHOP SPORTS GOODS: *T Wong, Mangere, Auckland*

100 ROUNDS OF AMMO FROM NZ AMMUNITION CO LTD: *R T Whetton, Wanganui*

ACCOMMODATION/CAR SECURITY, SIKA LODGE: *Aaron Joyce, Cambridge.*

Ten hunters also receive complimentary copies of this issue of Target Taupo.

We wish you safe and successful winter hunting and remind you that Landcare Research New Zealand is still in need of winter gut samples from sika and red deer in the Kaweka/Kaimanawa area.

All samples received give the hunter a chance to win outdoor equipment from Fairydown. Be in to win! ■

FINDING YOUR WAY

THE WAIPAKIHI VALLEY - KAIMANAWA FOREST PARK

The Waipakihi Valley is a significant and spectacular feature of Kaimanawa Forest Park providing hunters, trampers and family groups with outstanding but very accessible wilderness adventure opportunities.

The Waipakihi River is the major headwater tributary of the Tongariro River but unlike the Tongariro, the Waipakihi is not an anglers' 'el dorado'. Waterfalls and gorges stop the passage of the Taupo trout to the Waipakihi River. The resident population is small and isolated and must cope with an unstable river bed which limits food supplies and the size of fish. The article in Issue 4 of Target Taupo describes in more detail the shortcomings of this beautiful but unproductive trout fishery.

While the valley may be unproductive as a trout fishery, the hunting has won it a well deserved reputation as one of the premier deerstalking areas of the North Island. The alpine tops of the rugged Kaimanawa mountains, the dense beech forest on the valley walls, and the extensive river flats along its entire 25-kilometre length, combined with good access, provide hunting opportunity difficult to duplicate anywhere else in the North Island.

The valley supports good numbers of both red and sika deer. Sika deer with their greater preference for cover tend to prefer the lower altitude forest and

scrub on the valley floor, particularly in its lower half. Red deer tend to dominate the more open country in the head of the valley and up around the timber-line. Generally though, hunters can expect to find both species in varying proportions throughout.

Red deer heads are not exceptional in the Waipakihi area. Although 30-inch heads carrying ten points are attainable, 25-inch heads carrying eight points or less are more common. Sika trophies however are considerably better with one or two eight-point heads around the 170 Douglas score mark taken most autumns. As with many accessible hunting areas, intense hunting pressure reduces the average age of stags and hence trophy potential.

Table I gives a break down of hunting information obtained from the valley over the past two years. This information shows that over half the annual harvest occurs during the period November to January when the deer are targeting the lush grass on the river flats.

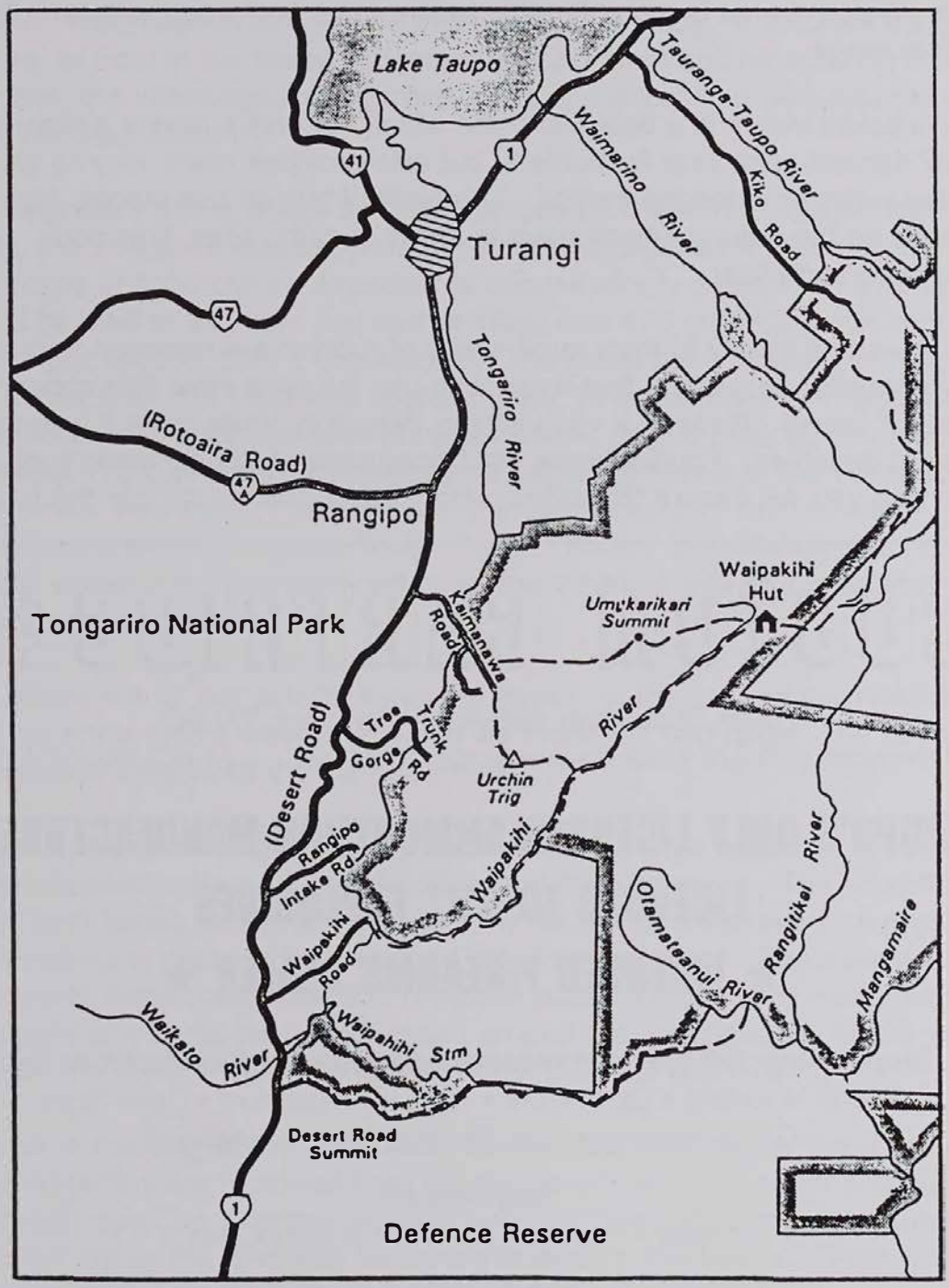
TABLE 1: *Hunting Statistics, Waipakihi Valley 1991-92.*

Month	1991			1992		
	Days Hunting Reported	Sika Kills Reported	Red Kills Reported	Days Hunting Reported	Sika Kills Reported	Red Kills Reported
Jan	72.0	8	5	92.0	14	6
Feb	24.0	2	1	28.5	3	1
March	25.5	4	5	72.5	11	7
April	161.5	11	14	104.0	15	11
May	58.0	12	2	33.0	4	6
June	12.0	-	1	9.0	1	-
July	15.0	7	4	13.5	-	1
Aug	19.0	2	1	15.0	5	1
Sept	48.0	8	6	24.0	1	-
Oct	35.5	5	1	23.0	4	3
Nov	90.5	11	16	65.0	19	11
Dec	136.5	17	33	81.5	15	18
Total	697.5	88	89	561.0	91	66

This period also sustains the most consistent hunting pressure which often forces the animals to feed after dark. Many hunters get frustrated by a lack of success despite huge amounts of fresh sign on the flats. A good point to

remember is that it is important to camp away from the flats that are being visited regularly by deer. A badly positioned camp will put deer off using adjacent feed areas.

The greatest success is had during the first half hour and last half hour of daylight on the river flats, but if the deer are obviously only feeding under cover of darkness, bush stalking the sunny faces during the mornings can be very productive. The deer move to these areas after day break to digest the night's takings.



Access to the Waipakihi Valley.

Don't be tempted to spotlight the flats at night! This practice is very dangerous in such a popular valley and offenders can expect to be prosecuted if caught.

There are four ways to access the Waipakihi Valley (refer to map). Access 15 or Waipakihi Road near the summit of the Desert Road gives access to the lower valley. Kaimanawa Road, 15 kilometres south of Turangi gives access to the mid-valley area via Mount Urchin or to Waipakihi hut in the upper valley via the Umukarikari Range. Helicopter access to Waipakihi hut is the fourth option. Waipakihi hut is a comfortable twelve bunk Lockwood with tank water and coal range.

The Waipakihi Valley is a beautiful place which not only sustains a high level of deer harvest each year for hunters, but also provides many varying groups with day walks or extended tramps. This level of human use places high demands on the natural environment in terms of camp sites, firewood consumption and litter.

Currently some twenty to thirty large sacks of rubbish are removed from the valley annually, suggesting that many who use the area have little concern for its natural values. Please! if you visit the Waipakihi Valley treat it with the respect it deserves. You will make the Department of Conservation's job a lot easier and you will ensure the valley retains its natural values into the future.■

THE RISE AND FALL OF THE TONGARIRO TRAPS

Those of you who have read issue 12 of Target Taupo will be aware of a program currently underway to estimate the size of the run into the Tongariro River. The program is a simple mark-recapture study. It involves trapping a 'pulse' of trout in the lower Tongariro, tagging them and recapturing them via anglers, the Waihukahuka (Hatchery) trap and a trap that was established in the Whitikau Stream.

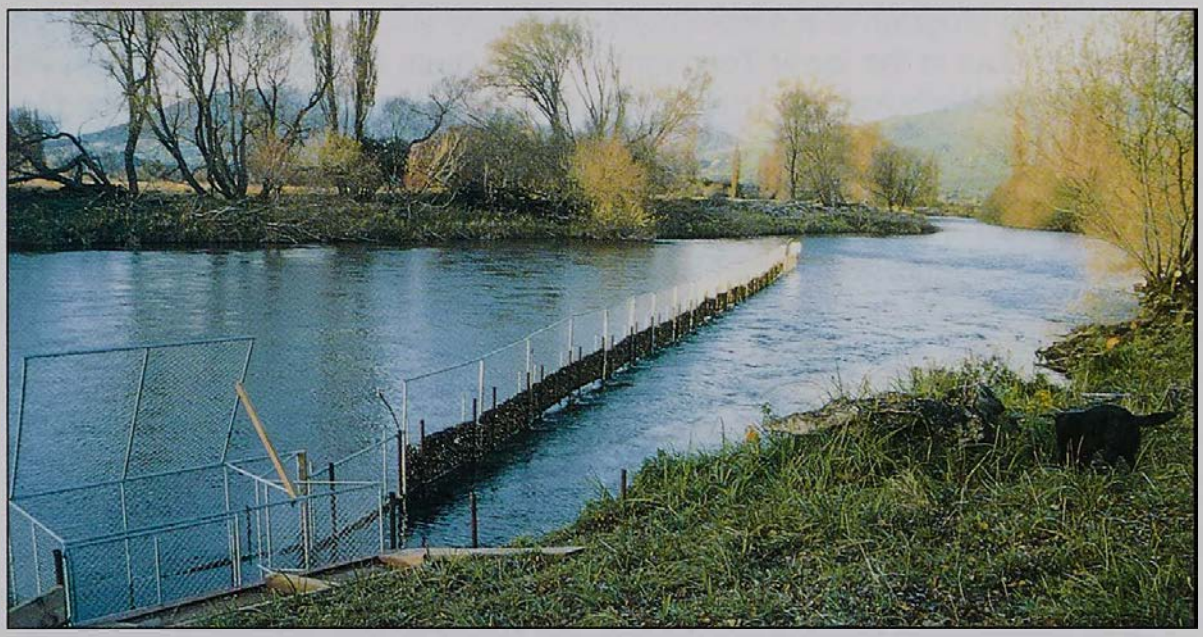
Unfortunately this is where the tale changes for the worse. On Sunday 16 May, the Tongariro was subjected to what is classed as a mean annual flood. This type of flood can be expected to occur every two years, on average. The flood peaked at 11.30pm and at that stage was 435 cumecs (cubic metres of water per second, past a given point). The mean base flow of the Tongariro is 27 cumecs, so the flood was approximately 16 times the mean base flow. The flood peak subsided after about 24 hours, only to peak again on 18 May at about 170 cumecs. It became apparent on 16 May that the Whitikau catchment was subject to a heavier than usual dump of rain, which contributed to the Tongariro flood. Prison Officers from Rangipo North Prison Camp commented that the flood down the Whitikau was as big as they have seen for a long while.

So where did all this activity leave the traps? In the case of the Whitikau we did not know until a week later when we found the trap cage! The flood completely destroyed the Whitikau trap.

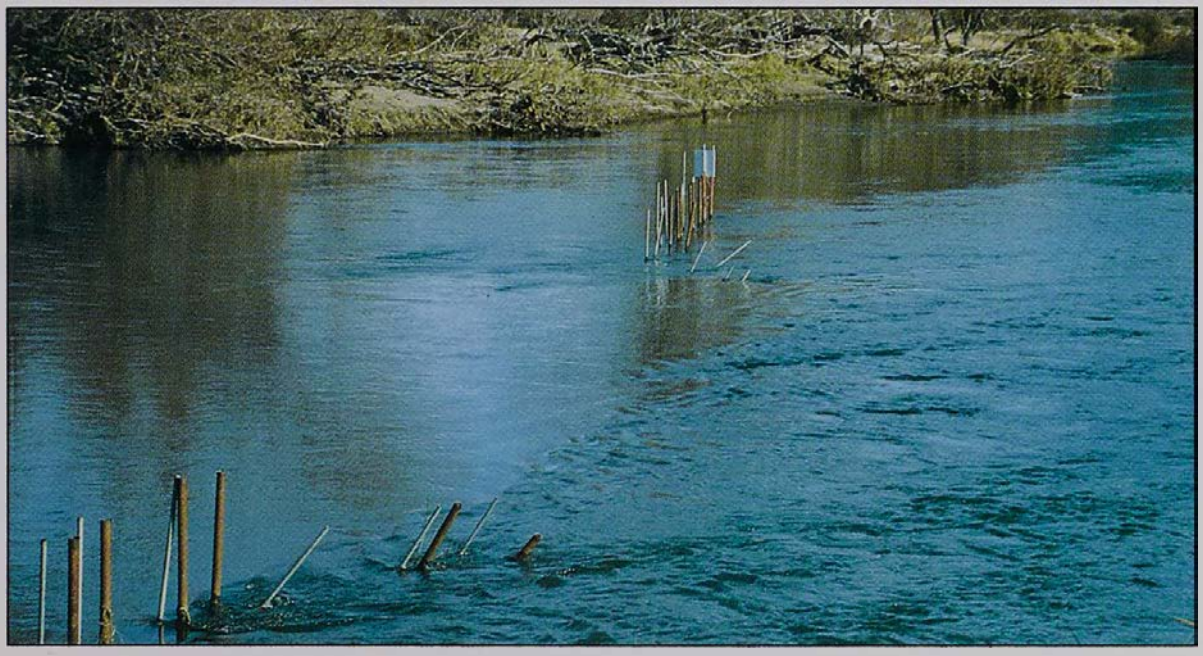
It is suspected that water flowing underneath the cage caused a scour hole that extended underneath the bedlogs and blew them out. The flood flowed over both banks, at about the same time the Tongariro peaked. A pressure wave about a metre high developed behind the bedlogs. The intensity of the flood was evident watching this pressure wave. Whole trees were swept from one side of it to the other and tossed around like matchsticks. As we stood beside the stream we could feel and hear the river bed moving.

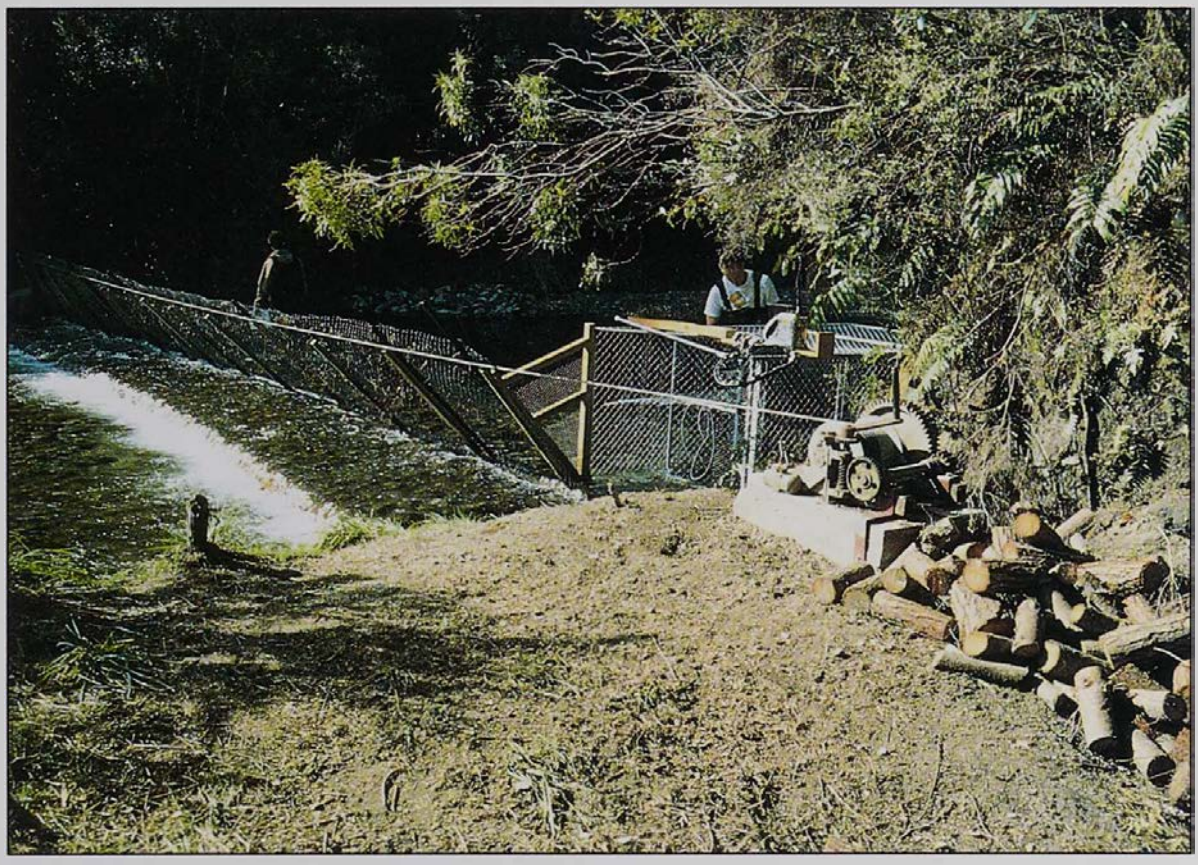
Earlier in the day, at the Tongariro trap, the river was rapidly rising around us. The screens were removed from the middle and left in at either end, so as to hopefully open up a deeper channel near the true right bank. We pulled out at about 4 pm as the river was beginning to overtop the banks. There was nothing more to do until the flood receded.

The next day we were back to check the damage. The Whitikau trap was gone. The stream had blown out on the true left side, taking the trap cage with it. The cage was eventually recovered about 500 metres downstream. The Tongariro trap was found with a 15-metre long pine tree resting on the middle of it. Subsequently, when it drifted off during the second flood peak, it took the middle section of the trap with it, logs and all. As the flood down the Tongariro was severe enough to cause bed movement, a lot of the fishing pools will have changed with new channels opening up in some cases.

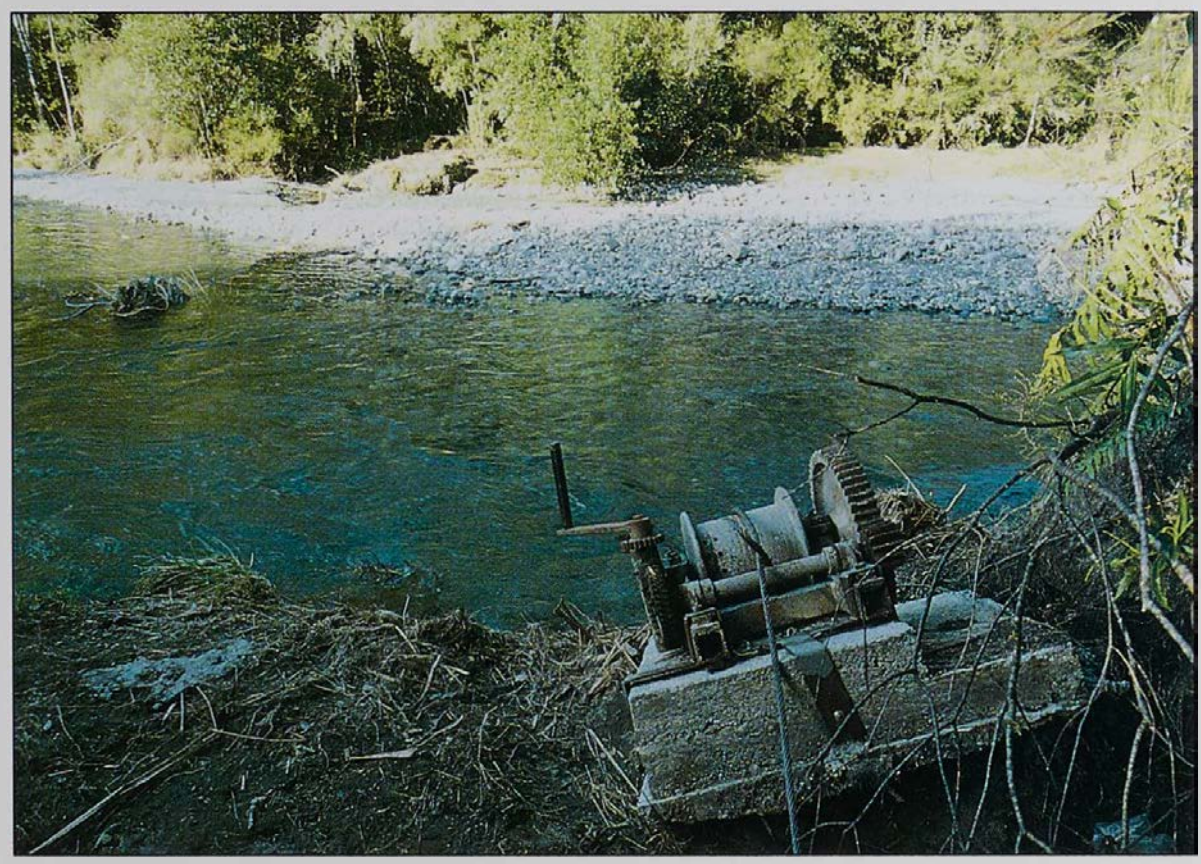


The lower Tongariro trap before and after the 16 May flood. The dark mass on the screens is the build up of leaves over a single autumn night.





The Whitikau trap before and after the May flood.



The cage from the Whitikau trap was found 400 metres downstream.

We are now faced with a major rebuild that will be completed by the time you read this (weather permitting!). The Tongariro trap will be reinstated at the original site but will be modified slightly to enable it to endure floods a little better. At this stage bedlogs will not be used to seat the screens, they will simply be placed directly onto the stream bed and allowed to settle into the gravel. This allows them and/or the poles supporting them to be pushed flat if struck by any large debris coming down the river. Hopefully the trap can be quickly repaired if damaged. One benefit from the flood was the channel on the true left bank which became slightly shallower, such that staff can now work in it. This allows us to put a second trap in, similar to the first, to trap a much larger portion of the flow.

The Whitikau trap will be rebuilt downstream about 100 metres from the original site. The new site offers a little more protection when the stream floods by spreading the flow out over a wider area. The design will be the same as previous, using bedlogs and a barrier that is raised and lowered using a winch. One alteration that will be made is that the trap cage will be positioned and secured in such a way so as to enable it to be removed when the river floods.

Both traps will be up and running by the middle of July, so keep an eye out for those tagged trout! ■

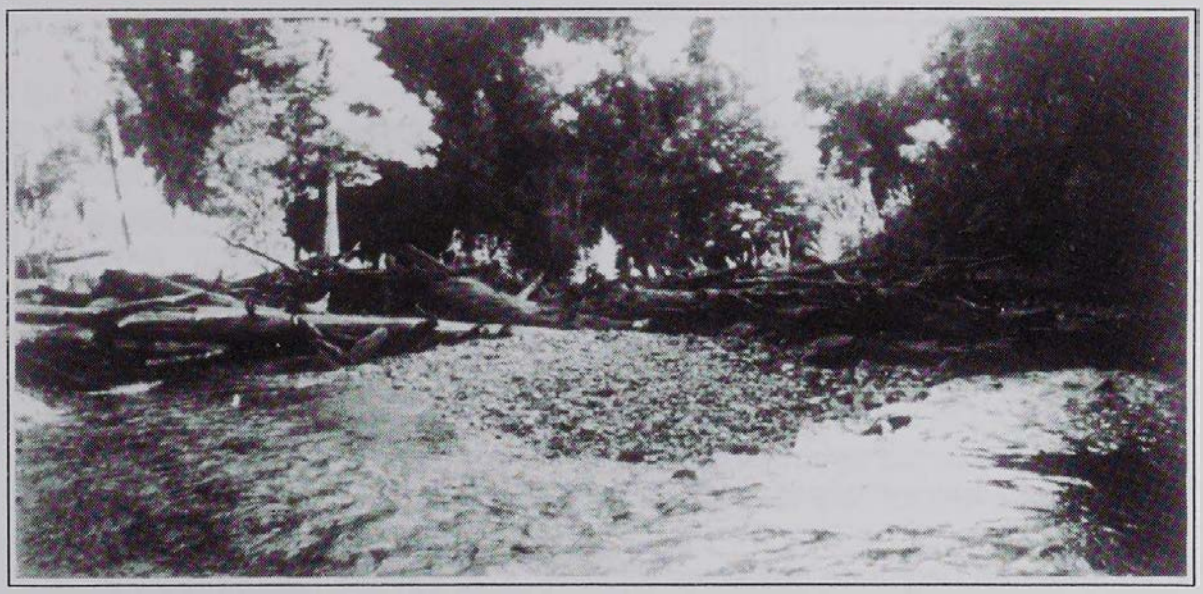
PROTECTING FISH PASSAGE

In a wild trout fishery like Taupo an important component of protecting the habitat involves maintenance of trout passage. Streams are regularly checked to ensure debris blockages or road culverts are not acting to prevent the fish reaching their normal spawning areas. Debris blockages typically begin with a log of one to two metres diameter which lodges across the river. Smaller logs and branches become snagged around this log, altering the flow and causing gravel to build up behind the obstruction. More and more of the flow passes over the top of the log rather than under, and behind the log fills in completely with gravel. The end result is often a sheer fall of several metres. The photos opposite show an extreme example which occurs at the forks in the Whitikau Stream. The river bed is approximately five metres higher behind the mass of logs than below. For many years this was the limit to upstream migration though surprisingly with some natural changes trout can now negotiate it. For obvious reasons this log jam was just too large to remove. However this summer another log jam lower in the Whitikau was blown up before it was large enough to actually block fish passage.

All of the major Taupo spawning tributaries cut a reef of ignimbrite rock. In some tributaries (e.g., Waimarino, Tongariro) the downstream edge of this hard bedrock creates an impassable waterfall, but in others (e.g., Whitikau and Waiotaka) the flow has cut a very narrow gorge with a series of cascades and small waterfalls over which trout can pass. However these gorges are often only two to three metres wide and are very susceptible to being blocked by large logs. A recent blockage in the Whitikau gorge was simply caused by a single large matai log lying down the chute into the plunge pool. This caused the trout to have to jump from further back than normal and instead of clearing the two metre waterfall they were falling short and thus being swept back into the pool.

In the Taupo fishery, road culverts are also a potential barrier to trout migration. Discussion between the fishery managers and roading agencies ensures new culverts are constructed so as to facilitate fish passage. The problems which occur tend more to be associated with existing culverts. These may well have been quite satisfactory in the past but perhaps flows have changed or the stream is carrying more sediment or the culvert or surrounds have scoured out. Fish passage may not be blocked so much as just hindered, making concentrations of fish vulnerable to poaching. Many traditional Taupo poaching spots are at the outfall of culverts.

Iain Maxwell stands atop the log jam at the Whitikau forks.



Looking downstream from above the log jam shows how the river bed has built up.

Last year with the increase in trout numbers returning to spawn, downstream of the Waipehi culvert on SH1 often held 20 to 30 trout after a wild wet night. Despite its closeness to a major highway, public picnic area, and fishing spot, or perhaps because of it, the stream attracted a lot of unwanted attention. Four different parties face serious poaching charges over incidents in this stream.

As a consequence the Department approached Transit New Zealand, as the road owner, who agreed to implement any changes we suggested.

The problem was twofold. The drop from the culvert to the stream bed was over 600mm and the water depth through the culvert pipes once the trout got into them was not really sufficient for adequate passage for the fish.

The culvert is, in fact, twin concrete pipes and as a consequence we suggested placing a low wooden sill across one pipe. At low flows this would cause all the water to flow through only one pipe but in flood flows the level would top the sill and both pipes would function. In the pipe used during low or normal flows we also suggested placing wooden baffles which are designed to concentrate the flow while providing quiet resting areas. The general design is from the US Forest Service and shown in Figure 1. The actual spacing is dependent on the channel width. This concept has been used several times in the Taupo fishery over the last 20 years and has proven very successful.

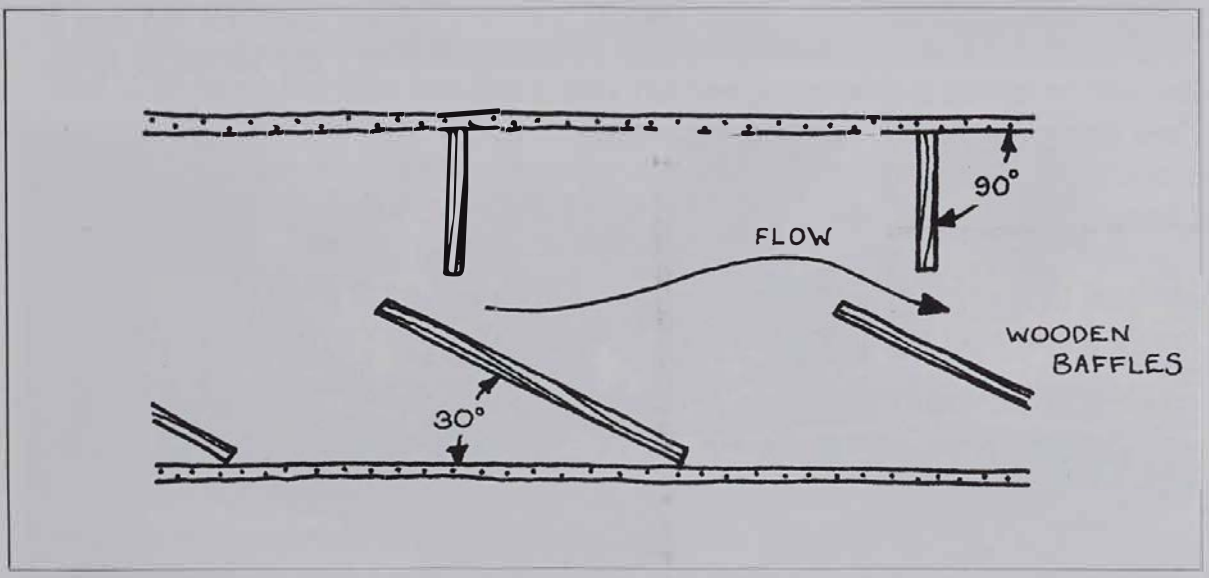
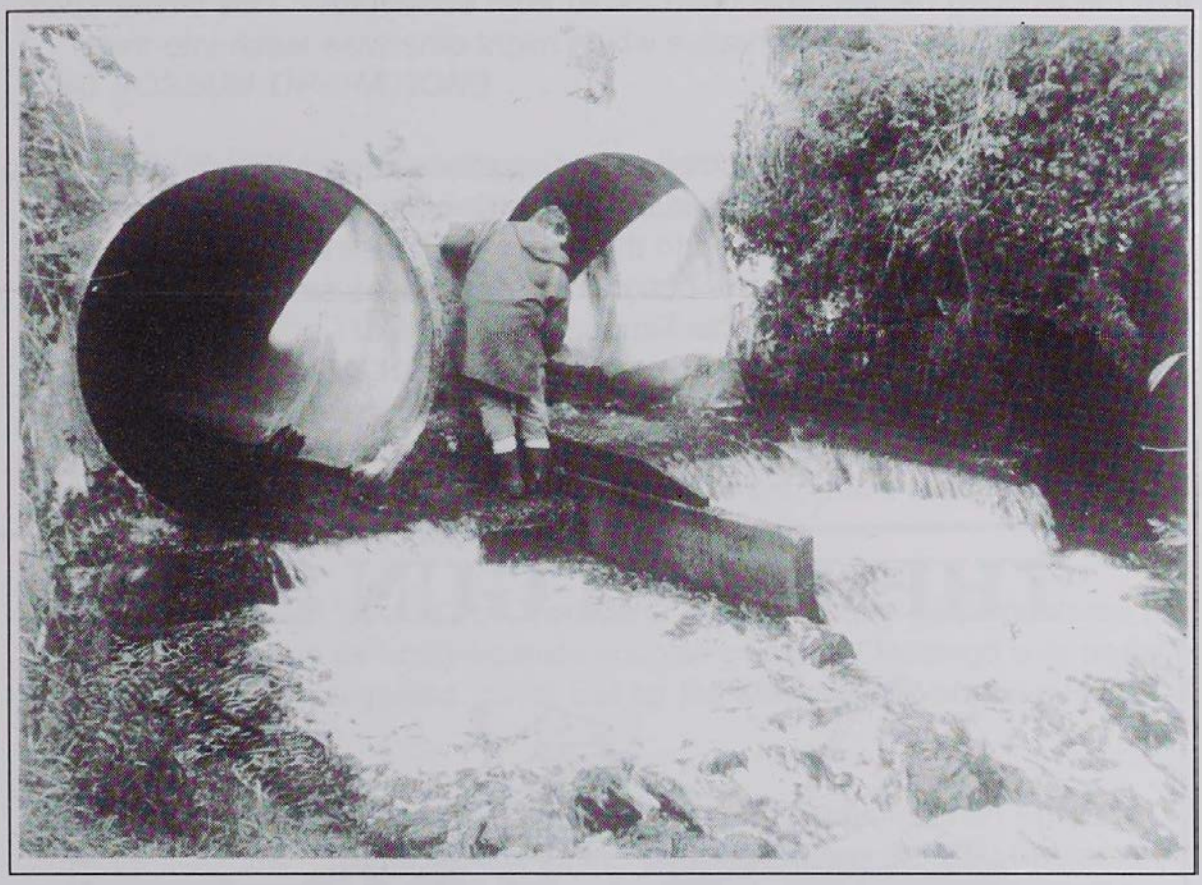


FIGURE 1: *Top view of self-cleaning baffle system.*

While trout can negotiate obstacles totalling up to several metres high, a general rule of thumb is that each individual drop should be no more than 300mm. It was therefore necessary to design a series of two steps to lift the

trout from the stream into the culvert. Again the design is well proven, the dimensions determined by the height of the drop.

Our recommendations were drawn into plans by Works Consultancy on behalf of Transit NZ and the work carried out by subcontractors in late April.



Wayne Boness inspects the baffles.

So far the improvements have worked very smoothly. If you are passing on SH1 and would like to have a look, turn into the picnic area just north of Bully Point about halfway between Taupo and Turangi. On a bleak, wet afternoon, it is quite likely that you will see fish leaping up the steps and into the pipe.

A similar problem also occurred in the culvert under Whangamata Road. This culvert already has a fish ladder at its outfall. However in recent years one of the two spring-fed tributaries upstream has reduced in flow. Sediment deposited in the culvert has increased and covered the bottom of the pipe. This has caused the flow to spread over a much wider area but at a depth of only four or five centimetres. Several times last winter staff observed trout on their side stranded in the culvert.

To remedy this we used the same baffle arrangement previously discussed. While normally this design is used to disrupt high velocity flows, a feature of

the design is its self-cleaning ability. The main current which is forced from side to side continually scours the channel clear of debris and sediment. This scouring of the sediment in the Whangamata culvert ensures a deep channel down the middle of the pipe which is ideal for fish passage. Fish were running the culvert even before the final baffles had been permanently bolted in. As a trial the wooden baffles have been milled from eucalyptus. This timber splits easily but requires no preservative which might otherwise leach into the stream.

Most of these culverts are on small spawning tributaries which are often only a metre or two wide. While the recruitment of juveniles from spawning in each area may not be huge compared to the larger tributaries like the Whitikau or Waiotaka, the worth of the contribution from all of these small streams is still likely to be very significant to the Taupo fishery. ■

BITZ 'N' PIECES

1080 POSSUM OPERATIONS

A number of 1080 operations have been undertaken by regional councils on Department of Conservation-administered land in Tongariro/Taupo Conservancy this winter. They are:

(i) Moerangi Bovine Tb Operation: Approximately 14,000 hectares of land was aerially sown with 1080-impregnated carrot bait by Waikato Regional Council around Moerangi Station south-west of Turangi in late May/early June. This operation included the southern blocks of Pureora Forest Park, Waituhi/Kuratau Scenic Reserve and the very north-eastern corner of Tongariro and Pukepoto Forests.

(ii) Tongariro Forest Bovine Tb Operation: Approximately 1,000 hectares of Tongariro Forest on its north-western boundary east of Owhango was aerially sown with 1080-impregnated carrot bait by the Manawatu/Wanganui Regional Council in early June.

(iii) Wainui Tree Protection Operation: At the request of Tasman Forestry, Waikato Regional Council aerially poisoned approximately 1,300 hectares on the north-eastern boundary of the Kaimanawa RHA between the Te Arero Stream and the Waitahanui River with 1080-impregnated pellets in June. The poison area includes a 400-metres buffer inside the forest park boundary. The operation was undertaken to protect young pines which have sustained heavy damage by possum browse.

(iv) Pohutukawa Tree Protection Operation: In August 1080 carrot bait will be aerially sown in the Kaiapo Bay area on the northern shores of Lake Taupo. This operation is aimed at maintaining low possum numbers to protect some 300 pohutukawa trees which occur along the lakeshore. These trees have considerable botanical value in that they occur only at Kaiapo Bay and on Motutaiko Island in the Lake Taupo area, and could possibly be the result of planting by the early Maori. At present 25% of the trees are dead and 50% show signs of serious crown defoliation typical of that caused by possum.

Hunters are warned that dogs will be vulnerable until the baits and carcasses have completely decayed in all of these areas.

SIKA TROPHY COMPETITION

On Sunday 23 May 1993, a total of 86 sika stag heads were produced, together with jaws, for measuring by members of the Taupo Branch of New Zealand Deerstalkers Association at the Spa Hotel in Taupo.

This represented a good sample of the autumn sika stag harvest in the central North Island. A total of 117 stags were registered from as far west as Mount Tongariro and as far east as Puketitiri in Hawke's Bay. The overall quality of heads was very impressive with 57 eight-pointers presented for measuring, 23 of which scored over 150 on the Douglas score.

Winner of the $2,000 rifle and scope donated by Fly & Gun Shop, Taupo and Sporting Life, Turangi was Harold Magon of Kerikeri who entered a five-point head taken in the North Arm. The rifle was one of fourteen prizes donated by sponsors and drawn at random from all valid entries.

The overall winning head was an 11-pointer taken by local Turangi hunter, Ken Drummond. The top three heads will be mounted free by sponsoring Taupo Taxidermists, Vern Pearson, Peter Livesey, and Richard Abraham. (Note: Richard Abraham entered the second highest scoring head but kindly donated his prize to the fourth highest scoring head).

The top ten heads are listed in Table 1.

Hunter's Name	Hunter's Home Base	Location Trophy Taken	No. of Points	Douglas Score
K Drummond	Turangi	Lake Taupo Forest	11	182 $^{2}/_{8}$
R Abraham	Taupo	Wharetoto (Ahimanawa)	8	171 $^{5}/_{8}$
R Vick	Hawera	Waipakihi (Kaimanawa)	8	169 $^{1}/_{8}$
B Hazeldine	Auckland	Clements Road (Kaimanawa)	10	168
R Freeman	Australia	Kaimanawa	8	167 $^{3}/_{8}$
M Sargent	Taupo	Puketitiri (Kaweka)	7	165 $^{6}/_{8}$
K Horton	Taihape	Southern Kaimanawa	8	165 $^{1}/_{8}$
B Coleman	Mangakino	Kaimanawa	8	163 $^{1}/_{8}$
N Philpott	Atiamuri	Clements Road (Kaimanawa)	8	162 $^{1}/_{8}$
I Kane	Taupo	Kiko Road (Kaimanawa)	8	161 $^{7}/_{8}$

TABLE 1: *Top ten heads, Sika Trophy Competition.*

Those present at the measure-up day were addressed prior to the prize giving by Dr Wayne Fraser, a deer ecologist with Landcare Research in Christchurch. Dr Fraser will be analysing the data obtained from the competition. His results will be widely publicised in this and other publications.

Watch this space!

The Department of Conservation would like to take this opportunity to thank the following sponsors for their kind support during the competition:

Fly & Gun Shop, Taupo
Sporting Life, Turangi
Helisika
Lakeland Helicopters
Big Game Artistry
Sika Country Taxidermy
Richard Abraham
Sportsways Distributors
Lakeland FM 96.7
Air Charter Taupo
Landcare Research NZ Limited
Custom Cartridges
NZ Ammunition Co Limited
NZ Deerstalkers Association
Rod and Rifle Magazine
Outdoor Living Sports Link, Taupo
Farmers Discount Meats, Taupo
Spa Hotel, Taupo.

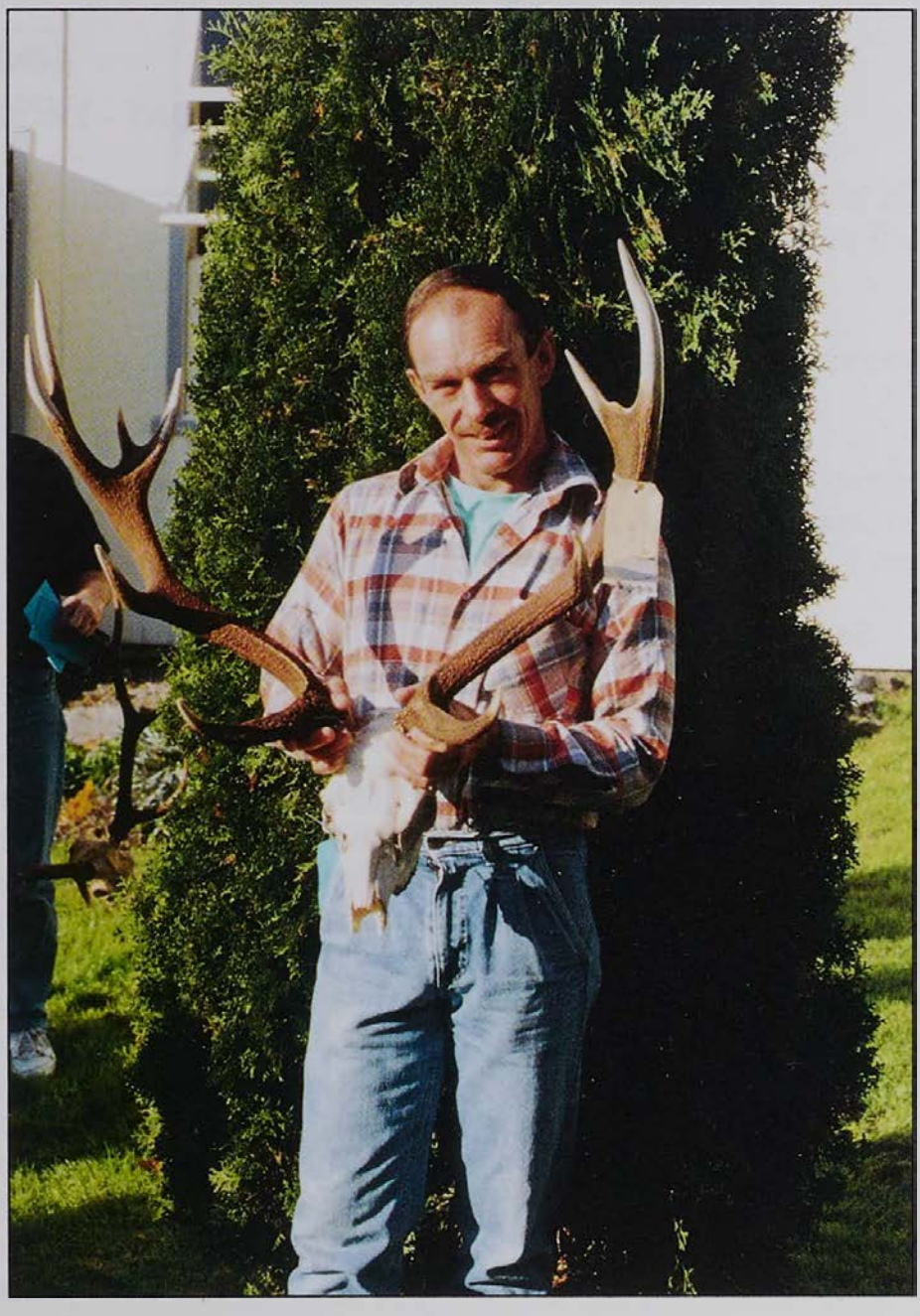
We hope you will show your support for these sponsors for the contribution they made to the event. Without them it would not have been possible.

1992 KAIMANAWA RHA SIKA HARVEST SAMPLE

A total of 143 deer jaws were supplied by hunters from the Kaimanawa RHA during 1992. These included 126 sika deer and 17 red deer. The usable sika sample of 121 (78 stags, 43 hinds) has enabled the calculation of the harvest profile on page 34.

A group of happy hunters following the prize giving at the measure-up day for the inaugural Sika Trophy Competition.

Harold Magon (left) receives his new rifle from Alan Angus at the Fly & Gun Shop, Taupo.



Local Turangi hunter Ken Drummond with his winning head.

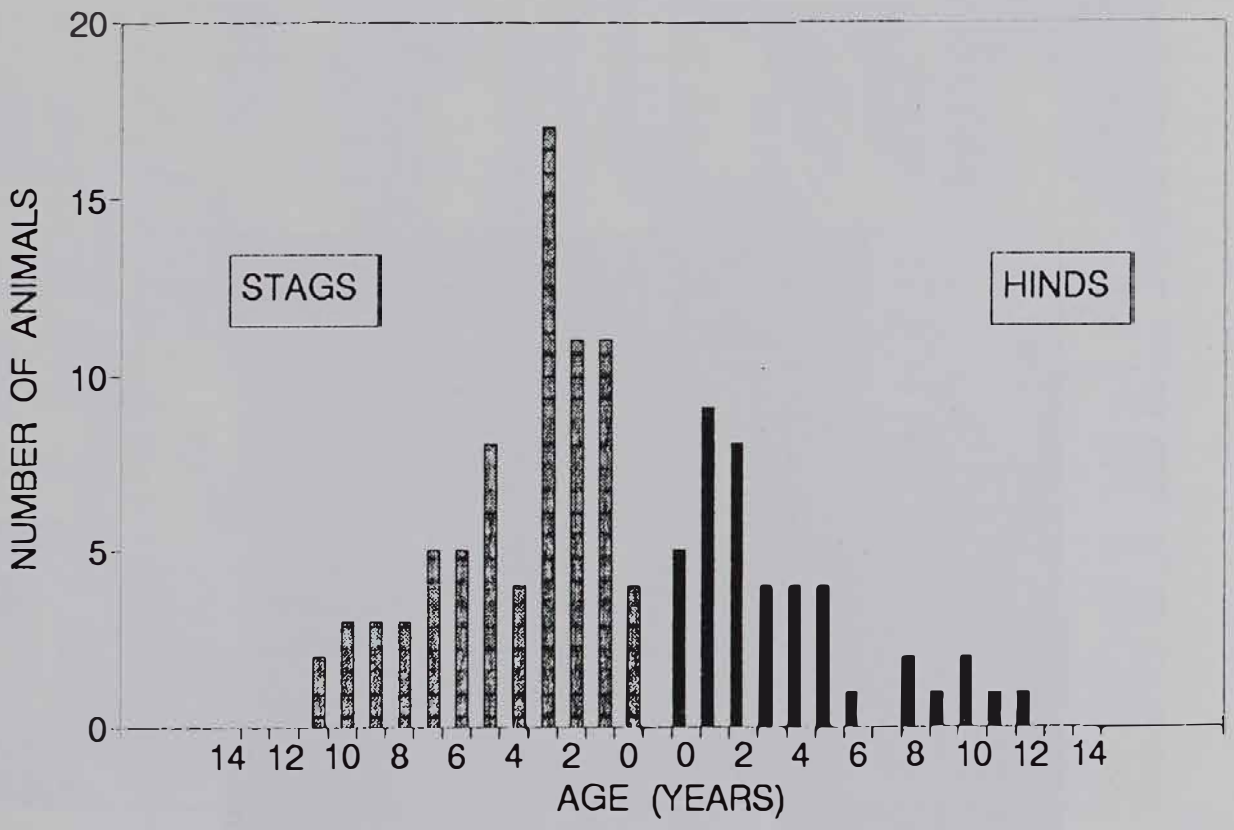


TABLE 1: *Sample of Sika Deer Harvest, Kaimanawa RHA 1992.*

The profile shows many similarities to previous years in that the harvest is dominated by young stags and that 60% of the whole harvest is less than four years old. It has, however, one significant difference - the population of three-year old stags in this sample is higher than usual. This may represent a particularly strong year class or cohort born in 1989 but a similar pattern is not shown in the hind harvest from the same cohort. It could also just be chance that more stags were harvested from this year class in 1992.

While such a large harvest of three-year old stags will mean many hunters will have small sika heads to put in the garage, the general effect on trophy potential in the herd could be significant. Sika stags do not reach their full potential until six or seven years old and such a large harvest of semi-mature stags from a single cohort will mean very few will 'escape' to reach this potential.

The other interesting point is the lack of very old deer in the sample. While stags up to fifteen years and hinds up to twenty-one years have shown up in the harvest sample in previous years, this sample shows only four deer older than ten years.

The sample is indicative of a deer population which has a low to moderate population base of breeding animals which produces and sustains a high harvest each year. Comments from hunters suggest animal condition continues to be excellent, although we have observed a number of smaller than usual yearlings (as determined by jaw length) this year, perhaps a result of the poor summers and harsh winters experienced over the past two years.

WILD DOGS - TAURANGA/TAUPO RIVER

A number of reports from hunters over autumn suggest a pack of at least three wild dogs is currently roaming free in the Tauranga/Taupo River catchment, somewhere around the waterfall-Rush Flat area.

These dogs are not only killing deer but are a threat to many species of native wildlife.

A white bull terrier-cross with a large brown patch, a large Rhodesian ridgeback, and a small brown fox terrier-cross which trail barks have been reported. Hunters in this area are asked to destroy these dogs if the opportunity arises.

The Department of Conservation has placed baited cage traps in the area, but these have limited potential in solving the problem. Hunters have the best chance of removing these animals.

HELICOPTER VENISON RECOVERY OPERATIONS - KAIMANAWA FOREST PARK

The Department of Conservation plans to offer a 200 deer harvest from an area of some 6,000 hectares in the head of the Waimarino, Waiotaka and Whitikau catchments of north-western Kaimanawa Forest Park, to a Wild Animal Recovery Service Licence holder this spring.

Despite four helipads in this area over the past three 'roars', the recreational deer harvest in the area has remained insignificant. These catchments have suffered major canopy collapse over the past ten years as a result of cyclones Bernie (1982) and Bola (1988) and their steep, broken nature and isolation makes them difficult to ground hunt effectively.

The aerial harvest will be offered to a single operator over the period 1 October to 31 December 1993. Strict conditions will apply to the successful applicant.

Information on species composition (red deer versus sika deer), animal condition, population age profiles, and the incidence of bovine tuberculosis will be collected from the harvested animals.

HELICOPTER ACCESS TO RANGITIKEI OVER SPRING

The Tongariro/Taupo Conservation Board, at its June meeting, endorsed plans to open three helipads over an eight-week period during November/ December 1993 for recreational hunter access to the Rangitikei Remote Experience Zone within Kaimanawa Forest Park.

This spring trial period follows an autumn trial in 1992 when four sites were available within the area. The earlier autumn trial resulted in over 100 hunters visiting the catchment, however this achieved a harvest heavily biased towards stags and highlighted management problems at landing sites. It is hoped this spring's trial will result in a significant hind harvest, particularly of the sika deer in the valley floor area which are having a major impact on forest understories in this habitat.

Use of the three sites, in Ecology Stream, at Rangitikei/Ecology junction and Rangitikei/Trick Creek junction, will be by special permit only and strict conditions will apply to their use. This is to ensure the wilderness values of the area are protected. Only one party will be permitted per site at any one time.

The three sites will be available between 30 October and 19 December 1993 to coincide with the start of the November growing season when deer begin to utilise the river flats, clearings, slips and tops, making them more vulnerable to harvest. ■

FISHERIES SCIENTISTS ATTEND TORONTO CONFERENCE

In May Dr Michel Dedual of DOC and Dr Ned Pankhurst of Auckland University presented the results of a joint study at the XII International Congress of Comparative Endocrinology held in Toronto.

The study investigated the effects of angler capture on rainbow trout during their spawning migration from Lake Taupo to the Tongariro River spawning grounds.

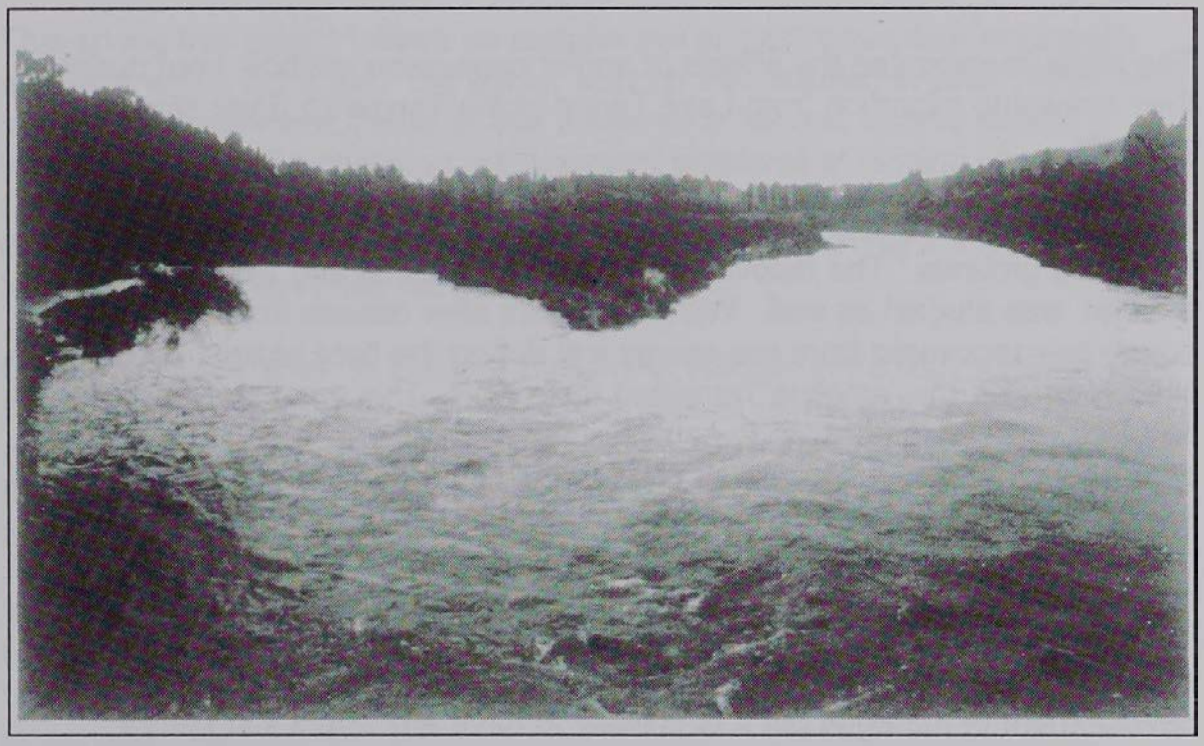
The results indicate that the trout get more stressed as they approach the spawning grounds. The recovery from both exhaustion and the 'emotion of capture' was studied as well. Within 24 hours after release trout have completely recovered from the energy lost during the fight against the angler's line. However, the 'emotion' remained quite high. This emotion was, however, difficult to attribute to capture itself as there was also the stress of captivity in the cage where the trout were held after capture. It was found that the long exposure to high stress had an effect on the sexual hormones in the blood. The concentration of these hormones was lower in fish after one day in the cage than it was before capture. This is the first time that such a depression of the sexual hormones has been observed in wild fish. The effects of this depression could potentially be critical if it happens during the development of the eggs but it is unlikely to have any effect just before spawning as the eggs are completely formed.

The whole experiment involved 103 trout caught fly-fishing with a weighted nymph. No mortality was observed following capture, complete exhaustion, and handling. Therefore it appears that catch and release of trout in the Tongariro River has no effect on mortality but could suppress some reproductive functions.

FISHERY UPDATE

The first flood this winter occurred in mid-May, the Tongariro River peaking at 435 cumecs at the Major Jones Pool. As a rough rule we usually consider 400 cumecs to be the point where large stones and boulders start moving on the river bed. As the river rose we were keeping a close eye on our fish traps and

it was with some consternation that we could hear boulders bouncing along the river bottom over the roar of the water. Not surprisingly our traps suffered major damage and the bed of the Tongariro changed quite markedly. Most obvious is the new channel immediately upstream of the SH1 bridge. The majority of the water now flows down a channel under the cliff on the true right, separated from the Lonely Pool by a large island. By comparison the Lonely Pool is almost still. These changes in the river bed mean anglers should be prepared to explore rather than trudging faithfully off to last year's hot pools. While many of the changes may be quite subtle they strongly influence the distribution of the trout and where they choose to rest.



The flood in mid-May caused the river to split in two upstream of the SH1 bridge.

The flood also marked the start of major spawning runs and regular rain over the next few weeks saw frequent runs enter all the rivers. These runs were characterised by exceptionally well conditioned fish which often averaged 2.5 to 3kg.

A settled period of weather in late June and early July finally brought the first frosts and a lull in the fishing that has only been temporary.

A noticeable change in the fishery this winter has been a significant increase in the number of anglers. For the first time since 1987 crowding on the Tongariro, and to a lesser extent the Tauranga-Taupo, is very evident even on some mid-week days. Remember that even though many anglers give away

winter river fishing by early August, runs still occur through into October. The fishing may not be so consistent but the good days can be very good and there are far fewer people to compete with.

An unusual feature has been the timing of the brown trout runs. Some very good catches were reported throughout May from the Hydro Pool in the Tongariro several months later than normal. Also unusual was the sighting of a number of brown trout in the Whitikau headwaters by fisheries staff undertaking fish counts in June. While large numbers of brown trout use the 2km stretch between the Whitikau confluence and a series of falls known as the 'Grotto', they are rarely seen above the Grotto, unlike rainbow trout. Even then the previous most upstream report was some 3km lower than in June this year.

MAJOR COMPLIANCE EFFORT CONTINUES

Last winter saw a major increase in the numbers of spawning trout entering the streams. Fisheries staff recognised that this would make these streams even more attractive to poachers and likely cause an increase in poaching activity. In response a considerable effort was put in by all members of the fisheries team and as a consequence 14 people face serious poaching charges. A variety of equipment was also seized including numerous pitchforks and a vehicle. The first cases are now coming through the court. Recent fines include $1,000 plus costs and seven months periodic detention.

This season will see a continuation of that effort. Already staff have had some success in the Waimarino and in another incident, from which charges will follow, a second vehicle has been seized.

Essential to much of our success is information passed on by the public. If you see something amiss let us know immediately. There is nothing more frustrating than hearing about some activity two weeks after the event.

MEASURING ANGLERS' SATISFACTION

As part of our routine monitoring programme the Department undertakes regular surveys of anglers to measure their satisfaction with aspects of the Taupo fishery. Each summer anglers are approached on Lake Taupo and during winter anglers on the Tongariro and Tauranga-Taupo rivers are interviewed. The survey involves measuring anglers' perceptions about the fishery using a scale from 1 to 5, where 1 is terrible and 5 is excellent. Anglers are asked how they rate the size of the fish, the quality of the fish, how satisfied they are with their angling success and their enjoyment of the

experience. A comparison of the average response by lake anglers to each question for 1992 and 1993 is given in Table 1.

The table suggests an increase in angler satisfaction reflecting the improvement in the fishery.

	1992 88 interviews	**1993** 91 interviews
Size	3.0	3.8
Quality	3.1	3.8
Satisfaction	2.7	3.6
Enjoyment	3.9	4.3

TABLE 1: *Comparison of average responses, angler satisfaction surveys, 1992-93.*

This survey is spread over the summer but to avoid any conflict with the harvest survey is not carried out over the Christmas period. However it is then difficult, particularly with the poor weather which has prevailed in late summer, to get a large sample size of anglers who have fished four days or more this season (people with fewer days on the lake are not really in a position to develop a perception). It may therefore be necessary next season to run both surveys together.

The survey also gives anglers an opportunity to comment on anything which detracts from their experience. Sixty-five percent of anglers interviewed this summer had no major concerns. The most common complaint was about water skiers.

This winter the surveys have begun on the Tongariro and Tauranga-Taupo rivers. If you are approached by a Conservation Officer please give them some time. It will only take a few minutes and is an opportunity for you to put your thoughts forward. Already, an interesting difference from last season is becoming evident. The results of this survey will be published in the next issue of Target Taupo.

GUIDES LICENSING

A bill to amend the Conservation Act has just been introduced to Parliament and referred to a select committee.

Of chief interest to anglers are proposals to introduce a special licence for commercial trout fishing and game bird hunting guides.

Under these provisions, guides will be required to purchase a licence to operate and fish or hunt themselves. Details of how the system will operate are yet to be worked out between DOC, the guiding industry and fish and game councils. However, it is intended that the fees will include a component of resource rental in recognition that guides benefit commercially from use of a public resource.

It is likely that revenue will be split between fish and game councils, Taupo fishery and DOC nationally. This will be based on the parties' relative responsibilities for managing fish and game and DOC's role to protect sports fish and their habitats.

TONGARIRO POWER SCHEME UPDATE

Several past issues have carried articles about the consultation leading up to Electricorp's forthcoming applications for new resource consents for the Tongariro Power Development.

The various working parties have made good progress in meeting their objectives of identifying issues and information needs to allow all interest groups to assess the applications.

Some of the members of the TPD fishery working party during a field inspection of the power scheme structures. From left : Peter Church, Ron Burgin, Steve Rice, Charles Mitchell, John Gibbs, Peter Taylor and Wendy MacDonald.

The fishery working party, chaired by DOC Fishery Manager John Gibbs, is due to provide its final report to the management group by mid-August. So far the working party has completed a list of issues and priorities, a fish species inventory of the power scheme, and identified broad information needs from which to develop research briefs.

Over the course of last summer ECNZ changed the way in which they operated parts of the power scheme. This was caused by implementation of the new Whanganui River minimum flow rules and a response to reduced summer hydro storage.

DOC and many anglers are concerned about the effects of these operating changes on two of the most important components of the Taupo fishery - Lake Otamangakau and the lower Tongariro River.

Low summer levels in Lake Otamangakau could reduce trout habitat especially during periods of high temperature and low bottom oxygen levels. As a result of discussions with anglers and fishery managers, ECNZ have agreed to consider proposals for a higher minimum level and a slower rate of change next summer.

1989/90 - 1991/92

	November	December	January	February	March	April	May
No.days	90	86	92	76	83	90	92
Flow Range	13.1-13.9	15.2-16.9	16.0-18.0	14.0-16.0	14.8-16.3	16.6-17.2	13.8-17.3
Mean Flow	13.6	15.9	17.2	15.1	15.4	16.8	15.9

1992/93

	November	December	January	February	March	April	May
No.days	23	31	31	28	31	30	9
Mean Flow	12.1	12.5	12.0	11.9	11.7	11.7	11.6
Variation	-1.5	-3.4	-5.2	-3.2	-3.7	-5.1	-4.3
Variation %	-11.0	-21.4	-30.2	-21.2	-24.0	-30.3	-27.0

TABLE 1: *Tongariro River flows (Cumecs) below Poutu Intake, Nov - May.*

Flows in the Tongariro River below Poutu Intake were much lower than normal between last November and May. Monthly averages were 11-30% less than for the same periods in the preceding two years as ECNZ sought to maximise generation from Rangipo power station (see Table 1).
While daily minimum flows were generally kept above the 11.3 cumec minimum required by TPD operating rules, the significant reductions that occurred are likely to have affected juvenile trout rearing and angling opportunities in the Tongariro.

In keeping with the spirit of the Resource Management Act consultations, DOC has asked ECNZ to maintain future summer flows at historical levels until the consents are decided.

COMPLIANCE UPDATE

Now that the summer period is behind us most anglers are looking forward to the winter runs of spawning rainbows. This also signals a change in effort for the CLE team from lake-based activities to the rivers and closed areas.

The early signs are that it is going to be another good winter season. This no doubt will see poaching in some vulnerable areas. Members of the public may possibly witness some of these activities. If this happens please report the activity promptly. Well over half the apprehensions for major fishery offences result from information received.

Anglers, please read your licences. It has come to our attention that some anglers are starting to use weighted nymphs larger than allowed (size 10 hook) and also some anglers are continuing to fish after already having caught and kept three fish. To avoid any embarrassment read the "Summary of Taupo Fishing Regulations" printed on the front of the Taupo District Fishing Licence.

The Department now has a diversion scheme which will, to some extent, reduce pressure on our overloaded court system. Diversion is an alternative to conviction, and is, in the main, for first time offenders. Offenders who are considered for diversion must fulfil a set of criteria usually involving community work and/or reparation. They are given a set time - usually a month - to complete the agreed settlement before any further legal proceedings are taken. If they don't, proceedings will continue at the next day in court. This system is also operating within some other conservancies. We are quietly confident that many offenders will benefit with positive "spin offs" for the fishery.

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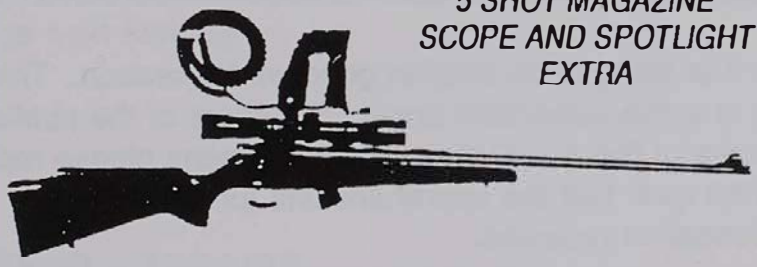

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VEHICLES ON RIVER BANK TRACKS

In recent years there has been a growing use of all sorts of vehicles on river bank tracks in the district. Often, vehicles are being used on tracks which were formed for basic foot access only, with consequent damage to the ground surface and adjacent vegetation.

Many anglers have expressed concern at these developments and we have even had reports of vehicles fording the Tongariro River below the Cliff Pool and driving along the foot tracks on the right bank.

Apart from the unsuitability of many tracks for vehicles, the majority of our tracks are actually formed on rights-of-way proclaimed under the 1926 Act. These grant a 20-metre wide right-of-way on foot for licensed anglers over land that was at that time in Maori ownership. The right-of-way is not extinguished by subsequent changes in land title.

This means that only the land owner can permit any vehicle use on the right-of-way.

Where tracks cross Crown land administered by DOC, the Department can determine whether vehicles are allowed on tracks, subject to the specific reserve status of the land.

Until now, most of our efforts have been directed at controlling the use of vehicles to prevent damage to tracks. These were primarily four-wheel drives and motor bikes. While most licence revenue spent on foot access has gone to forming, maintaining and improving foot tracks and bridges, a growing proportion has been spent on installing vehicle barriers.

More recently we have received complaints about the impacts of an increasing number of mountain bikes on some tracks. While there is concern about the physical impact the bikes have on track surfaces, much of the comment relates to the safety of other track users and the negative effects on anglers' outdoor experience. In particular, anglers encumbered by waders (the lucky ones with fish) and long, expensive fly rods feel very vulnerable at the sudden appearance of a fast moving mountain bike around a bend of a narrow track.

From the feedback we have received, many anglers agree that there are tracks where walkers and mountain bikers can co-exist given a reasonable degree of mutual consideration. The trick is in determining just which sites are most and least suitable for joint activities.

To help in making these assessments, our Head Office Visitor Services division has produced a set of draft guidelines to be applied in deciding suitable tracks for mountain bikes. The guidelines take account of several factors. These include the effect of bikes on natural and historic values, recreational amenities, extent of other uses, public safety and physical track characteristics.

Over the next few months we will be enlisting the aid of anglers, mountain bikers and other track users to assess various tracks.

Anglers with an interest in these issues can have input through submissions to both the draft fishery management plan and the conservancy's draft conservation management strategy - both due for release in coming months.

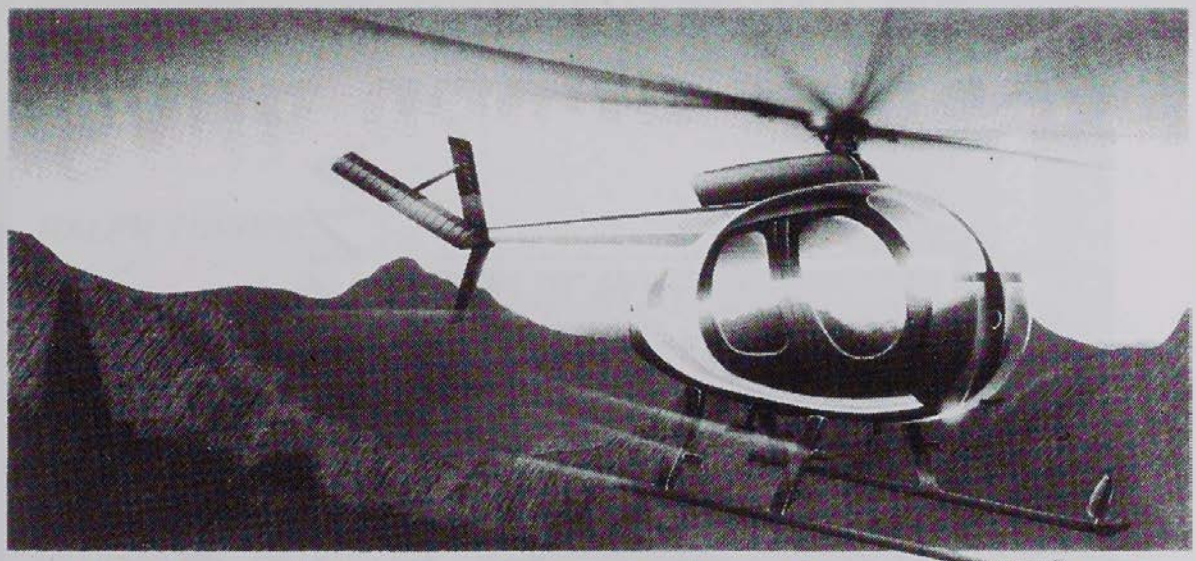
DOWNRIGGERS FOR LAKE TAUPO

The Department is now seeking anglers' views on the merits of allowing the use of downriggers in the Lake Taupo fishery.

Fisheries staff have conducted trials in the lake to compare downriggers with existing trolling methods. Factors assessed were the effectiveness of downriggers and the survival of fish released after being caught by this method.

The results of this study are presented in the special edition (2) of Target Taupo titled "Downriggers for Lake Taupo". This publication has already been widely distributed and further copies are available on request from the Department's office in Turangi.

The decision on whether or not to introduce downriggers at Taupo will depend largely on the views of the anglers. On that basis, we need to receive opinion from a broad cross-section of Taupo anglers. Therefore, if you have an interest in this issue please let us know what you think. ■



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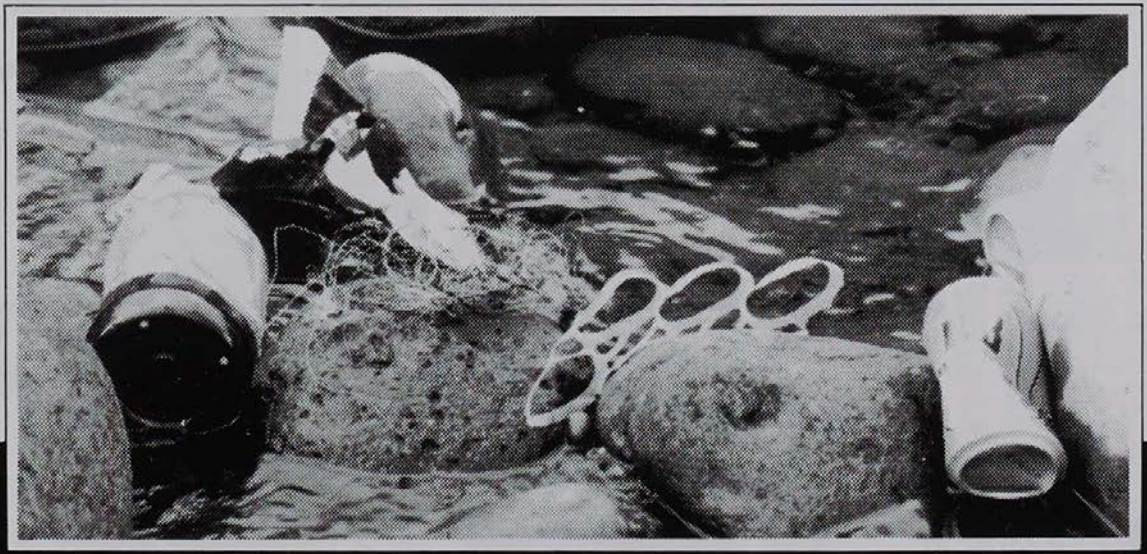

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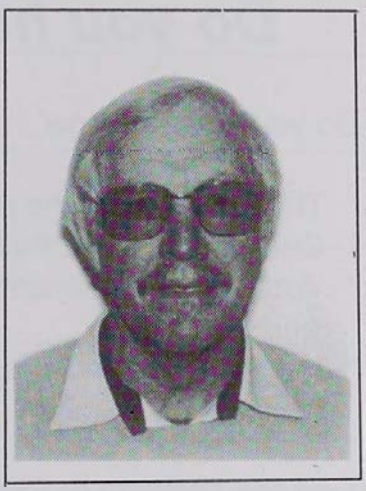
MANAGER PROFILE

RALPH TURNER



Ralph is based in Taupo and is the Manager for the Taupo Field Centre. Ralph and the Taupo team are responsible for looking after all the 'dry bits' - the lakeshore reserves from Karangahape across to Mission Bay north to Whakamaru and east to Opoto and including the Recreational Hunting Area of Kaimanawa Forest Park.

Most of Ralph's career has been spent in the exotic production forests in both the North and South Islands, finishing as Officer in Charge of Lake Taupo Forest on the closure of the New Zealand Forest Service. He then spent three years as Forestry Manager for the Forestry Corporation based at Turangi before joining Department of Conservation in 1990.

Ralph enjoys hunting and golf and is a self-confessed rugby and cricket-watching fanatic! ■

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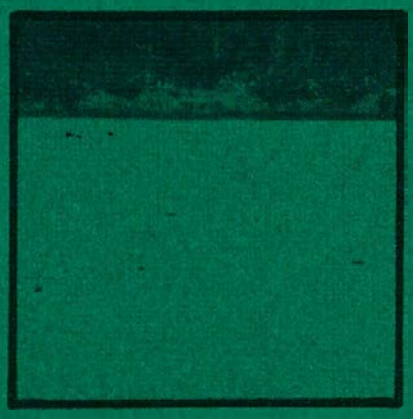

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