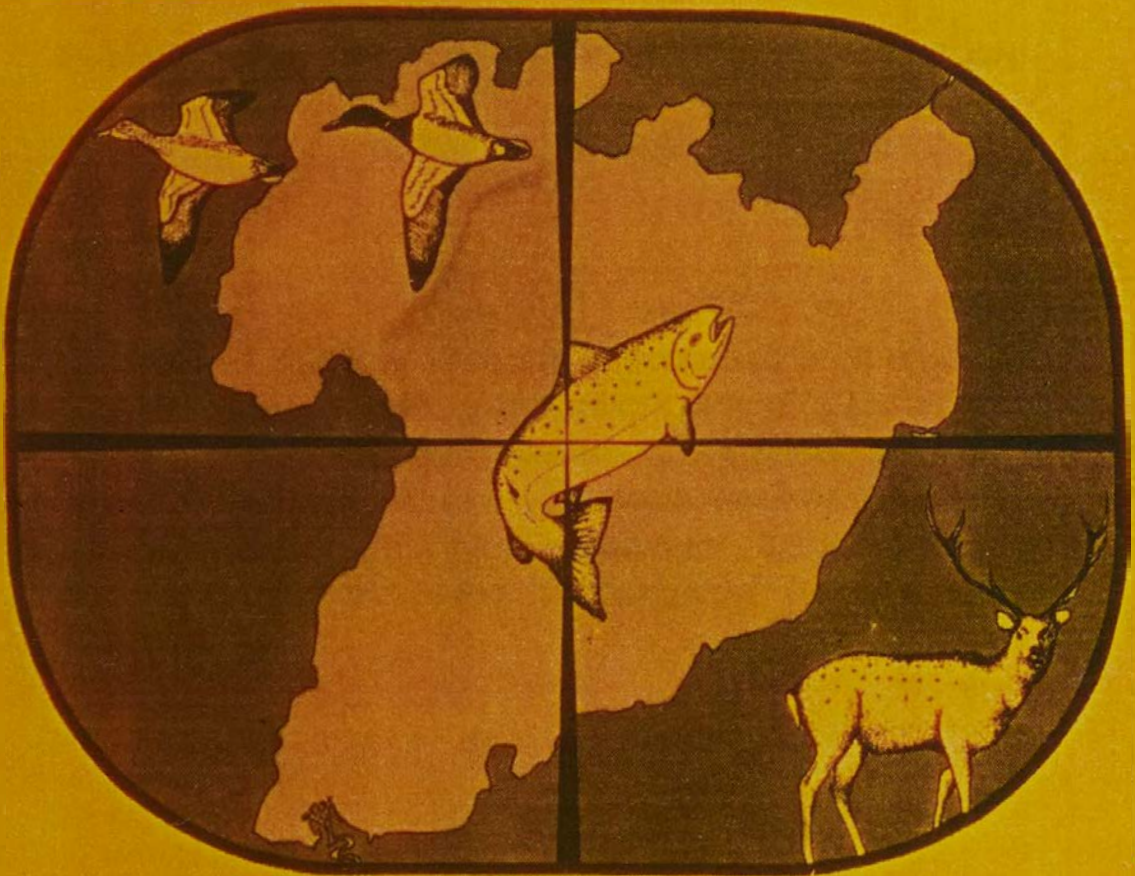


MARCH 1991
Issue 6

TARGET TAUPO

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



CONSERVATION
TE PAPA ATAWHAI

TARGET AUPO

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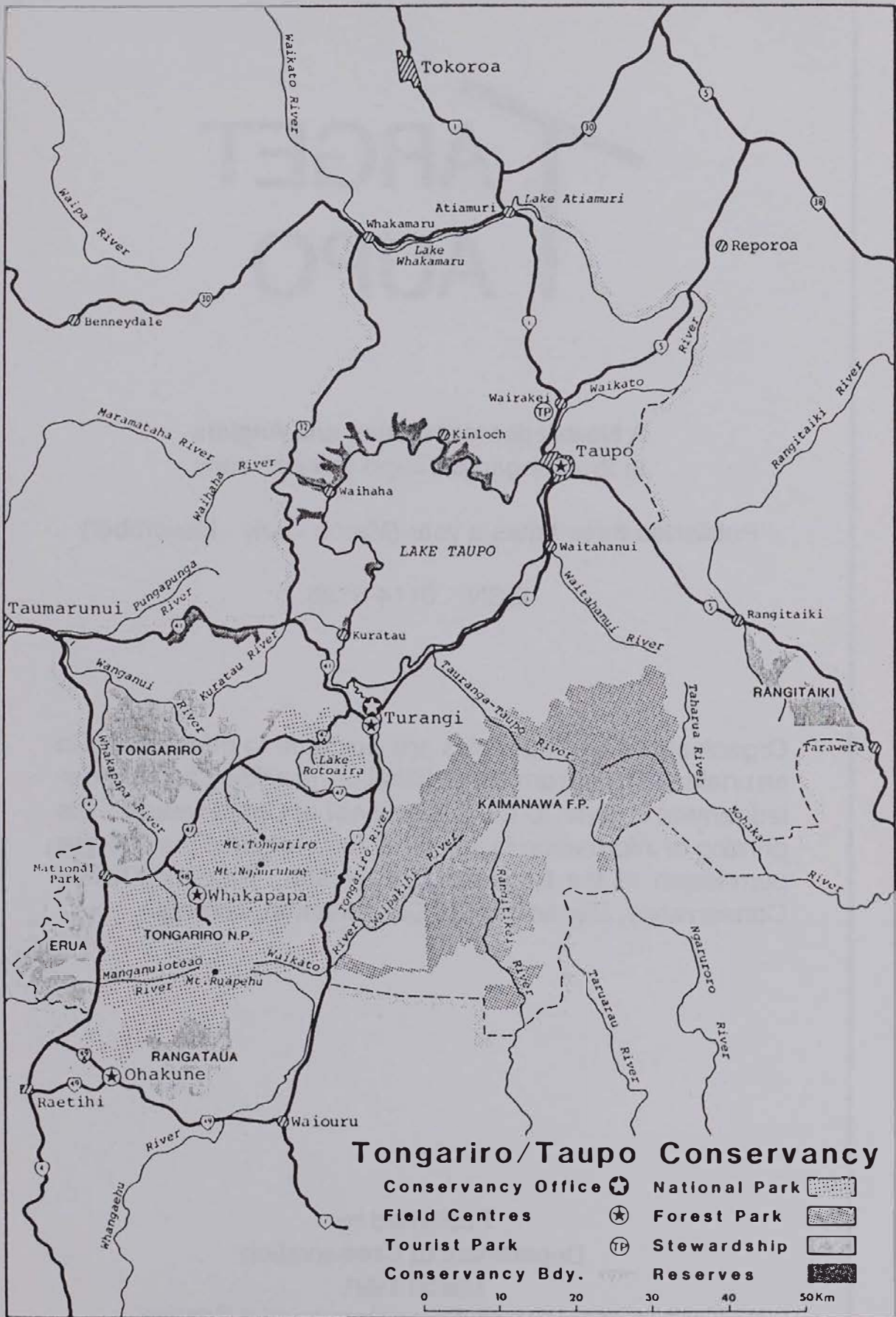
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CONSERVATION
TE PAPA ATAWHAI

DEAR SPORTSPEOPLE

Summer is coming to an end and the anglers amongst us will be anticipating the winter river fishing and the hunters contemplating the roar and the opening of the gamebird season.

I have been absent from the conservancy most of this last year, filling my time seeing the sights of Europe, Britain and Africa. I had some great times and wonderful experiences, capped by seeing the 'Big 5' in the wild, though it was almost too close a look at an angry lioness. However, my only angling opportunity was a couple of days spin fishing on the River Annan on the Scottish border, staying in a country hotel which cost a small fortune but proved a delightful interlude. A catch of one sea trout for my effort seemed accepted as a reasonable catch rate, not quite what most of us demand from the Taupo fishery. At least I got to fish a quality water for a moderate cost. There was little hope at all of getting an opportunity to have a go at the numerous pheasants unless I suddenly inherited an unexpected title.

It really made me appreciate just how important it is that the fish and game resource remains accessible to all New Zealanders.

Protection of water quality, habitat, indeed all of the natural ecosystem is paramount for numerous reasons, but is of greatly diminished value to me if I can't access and experience that resource.

I note an increasing willingness to pay for the exclusive use of private roads and tracks to reach fishing and hunting spots. Where there is an alternative, though perhaps less convenient, free access, everyone still has the opportunity to use what is a public resource (i.e. the water and the trout or gamebirds in and around it). However, as more and more landowners demand a fee to cross their property I wonder if we are not progressing towards a situation not too dissimilar to Britain, where ultimately only the very wealthy or members of exclusive clubs would have the only access to your favourite waters or wetlands.

It is worth thinking about. What really sets New Zealand apart is basically unobstructed access to enjoy the wonderful natural resource - it really is a paradise!

Good luck for your autumn endeavours.

Glenn Maclean
Co-editor

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

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ANYTIME

1. DIET STUDY OF SIKA AND RED DEER IN THE KAIMANAWA AND KAWEKA RANGES

Many of you will be aware of the ongoing study of sika and red deer diet in the Kaimanawa and Kaweka ranges. This brief article provides some background to the project and an update on progress so far.

Why study sika and red deer diet?

The study will help to answer a number of questions fundamental to local deer management, such as:

- *Why do sika favour some habitats over others?*
- *Why are sika generally in better condition than red deer from the same area?*
- *Why are sika continuing to replace red deer in areas where both species occur?*

The last question is especially relevant if we are to predict what sort of natural dispersal of sika is likely to occur in the future.

Sika have slightly different stomach morphology to red deer and appear to be more efficient in breaking down fibrous foods (even of poor quality) and in building up energy reserves (fat deposits). Analysis of rumen (stomach) samples from both species will enable us to determine just what sort of differences exist in the diets of the two species.

How can recreational hunters help?

Recreational hunters are being asked to assist in this research by providing rumen samples and jawbones from any deer they shoot in the study area. The collection phase of the study is planned to run for two years (July 1990 - June 1992). Collection depots have been established at a number of huts within the Kaimanawa and Kaweka ranges, local DOC offices, and air charter firms. Sampling kits are available at all these sites.

We require about 200 sika rumen samples and about 50 red deer rumen samples from both the Kaimanawas and the Kawekas, 500 samples in total. Ideally, these should be spread evenly from throughout the year. Besides the main comparison of diet between sika and red deer, this number of samples should allow us to examine variation in the diet of sika between seasons and perhaps by age and sex classes also. It is highly unlikely that a project such as this would be possible without support from the Department of Conservation and co-operation from recreational hunters.

What do we do with the samples?

In the laboratory the rumen contents are sieved to remove the very small (unidentifiable) material, then sorted by plant species using a light microscope. For each plant species we can then calculate the frequency of occurrence (what proportion of rumen samples

does it occur in), which is an indication of whether it is rare or common in the diet. In addition, the weights of each sorted category (after being oven dried to standardise water content) are calculated. This tells us how much of each plant species the deer has eaten, and from this the average values for the deer population can be estimated for each plant species. Initially, each sample took about five to six hours to analyse. However, as we have become more proficient at identifying plant fragments and streamlining other parts of the process this has been reduced to about two hours.

What have we found so far?

To date we have collected approximately 120 rumen samples, of which 90 have been sorted, dried and weighed. The majority of the samples have come from the Kaimanawa RHA and the private hunting blocks around the Mohaka River. Taupo Air Charter and Heli-Sika have been especially helpful in getting their clients to obtain samples.

Although there are insufficient red deer samples to analyse at present, preliminary data analyses have been carried out on 46 sika samples from a relatively small area in the Kaimanawa RHA. Most of these samples were collected during a previous study on habitat preferences in Jap Creek 1986-1989. The following table presents some of these results.

TABLE 1: Percent occurrence and average dry weight values for various components of 46 sika rumen samples

<u>Species</u>	<u>%occurrence</u>	<u>average % dry weight</u>
Asplenium flaccidum, hanging spleenwort	59	1.0
Blechnum capense, kiokio	30	0.5
Blechnum fluviatile, kiwakiwa	65	1.8
Carpodetus serratus marbleleaf	46	1.4
Coprosma spp. (large-leaved)	48	3.0
Coprosma spp. (small-leaved)	46	2.5
Griselinia littoralis, broadleaf (green leaves) *	89	7.0
Griselinia littoralis, broadleaf (old leaves) **	91	19.9
Histiopteris incisa, water fern	28	0.5
Nothofagus fusca, red beech (green leaves)	72	1.8
Nothofagus fusca, red beech (old leaves)	72	3.4
Nothofagus menziessi, silver beech (green leaves)	78	1.6
Nothofagus menziessi, silver beech (old leaves)	78	4.5
Phymatosaurus diversifolius, hound's tongue fern	63	1.9
Polystichum vesitum, prickly shield fern	33	0.2
Pseudowintera colorata, pepperwood	28	0.3
Pseudopanax crassifolius, lancewood	17	1.1
Pseudopanax simplex, haumakoroa	44	3.4
Weinmannia racemosa, kamahi	24	1.1
Other identified species ***	2.46	15.1
Unidentified species	-	30.9

* green leaves can be assumed to be growing or freshly fallen material
 ** old leaves can be assumed to be leaf-fall only (i.e. taken from on the ground)
 *** approximately 60 species, mostly of minor importance

While these results are for a small number of deer only and cover more than one season, several interesting points emerge. A wide range of plants are eaten by sika with more than 80 species identified to date. However, only a small number of plants occur in most rumen samples (i.e. only six species have a frequency of occurrence greater than 50%). Even more noticeable are the relatively low average % dry weight values for most species. For example, although *Asplenium flaccidum* occurs in 59% of rumen samples, it only contributes 1% of the total weight of vegetation eaten. One possible explanation for species such as this is that they are ingested coincidentally while the deer is feeding on other material. Alternatively, since *Asplenium flaccidum* is a relatively common epiphyte (grows upon another plant), it may be that only small quantities fall to the forest floor but that they are highly preferred by deer. More information is required before details such as this can be determined.

The dominant food items are clearly broadleaf (91% occurrence, 26.9% average dry weight), silver beech (78%, 6.1%) and red beech (72%, 5.2%). For each of these species most of the material eaten (65-74%) is taken as leaf-fall from on the forest floor. Previous litter-fall studies in the area found that while red and silver beech made up about 96% of all leaf-fall, broadleaf contributed only about 1%. This further emphasises that broadleaf is a highly preferred species in the diet. This is a useful key to where the most productive hunting can often be found.

As more samples are sorted and analysed, clearer patterns and differences in diet in relation to season should emerge. More red deer samples are required before we can carry out any comparisons between sika and red deer.

What remains to be done?

Obviously, there are many more rumen samples to be collected, sorted and analysed. We are especially keen to get more samples from the summer (December-February) and winter (June-August) periods. Once the collections are complete we will analyse the data in detail and write several scientific reports on the results. An easily readable article will also be written for **New Zealand Wildlife** or **Rod and Rifle**. Further updates on the project may also appear in this magazine.

If you are intending to hunt in the Kaimanawas or Kawekas in the near future, please consider taking a rumen sampling kit (instructions provided) with you and bring us a sample from any deer shot. To those hunters who have already collected rumen samples, thank you once again.

Wayne Fraser
Forest Animal Ecology Section
Forest Research Institute
Christchurch



THE BROWNIE - TAUPO'S FORGOTTEN TROUT

The following article is in response to a suggestion by the Manawatu Freshwater Anglers' Club.

To many anglers worldwide, 'the brownie' represents the foremost in angling challenge and satisfaction, yet historically at Taupo it has been the rainbow trout which has attracted acclaim.

Brown trout are uncommon in the Taupo angler's bag. Data collected from lake anglers in December each year indicates that brown trout make up between 0.5 and 1.5 percent of the total catch. However, there are occasions when, at particular locations in the right season, good bags of large brownies may be taken. A small number of Taupo anglers specialise in taking these fish which average between 2.5 and 4 kilograms with occasional specimens well over the magical 4.5kg mark.

So let's take a journey around the Taupo fishery and highlight where some of the better opportunities to catch a good brownie occur.

In February and early March, over that period of hot, humid late summer weather, mature brown trout gather in large schools off river mouths such as the Waitahanui, Waimarino, Waihaha, Waihora and Whareroa.

With a combination of a dark night and a ripple on the lake surface these fish may move right into the river mouth as they prepare for their spawning migration. At mouths such as the Waitahanui, a brisk westerly which forces the river current in along the beach for a few hundred metres before swinging out into the lake again will have anglers reaching for their rods. Even under quite stormy conditions with a fierce wind blasting onto the shore, those anglers snuggled deep into their waders amidst the crashing breakers punching a line out into the current immediately behind the surf line may experience some excellent fishing amongst exhilarating conditions.

In this situation anglers use a large black fly tied on a size 2 or 4 hook attached to a leader of 5.5 to 7kg breaking strain fished on a slow sinking line. The fly is retrieved slowly, the waves buffeting the line making it difficult to stay in contact. Often though, the strike leaves the anglers in little doubt, hence the use of relatively heavy leaders. This sort of fishing certainly doesn't appeal to many. It is unsettling to have large waves rearing up out of the dark, it is cold and the weed pushed in against the shore can seem to forever be snagging the line and fly, but four or five prime browns of 2.5 to 4kgs can make it all worthwhile.

Most anglers prefer to chase the browns on quieter nights. At popular mouths a slow sinking fly line is used to avoid snagging the lines of other anglers, but at the smaller mouths a floating line may be more effective. Preferred patterns are all large black flies, especially Pukeko or Marabou patterns. Luminescent flies do not seem effective for brownies. The fly is cast well out into the current and given time to sink near to the bottom before being retrieved with a very slow patient crawl. The strike may be a crashing take or simply a slight

tightening as the trout gently mouths the fly. To the inexperienced angler this may seem as though the fly is dragging on the bottom and is often ignored. Most brownies are taken in the current, but unlike rainbows they can also be found well out to the side, patrolling the still water.

While on lake fishing, presently untried is fishing for the browns cruising the shallow weedy margins of the lake such as Stump Bay, Tokaanu and Motuoapa. Dr Martin Cryer, when netting trout as part of his production study, caught very few brown trout overall but had several reasonable catches in these areas in nets set in only a few metres of water. Fishing for these solitary mooching brownies can be very successful in other New Zealand lakes and there seems no reason why it shouldn't be effective from a quietly drifting boat in Stump Bay, for example.

After milling around the river mouths large schools of brown trout move into the rivers. With the exception of the Tongariro they are rarely fished for once in the river. In the Waitahanui they characteristically lie with their heads in the watercress, in other small rivers in deep pools amidst large snags and under overhanging willows, all very difficult areas to fish. No one has come up with a consistently successful method to take these browns but the challenge is there.

However, on the Tongariro a small group of anglers do have success taking a few of the hundreds of fish which run up the river. A drift diving survey in February 1988 estimated that there were 40 large browns per kilometre in the lower river. These fish may be very visible either lying out on the shallow gravel runs or tucked in behind the willows and snags along the edge. Seeing these large browns is one thing, hooking and then landing them is quite another. No one technique is very successful but rising fish may be tempted occasionally with a cicada dryfly imitation during the day or a large bushy dry in the dusk. The evening rise can be quite spirited although the fish often rise in little pockets and backwaters in amongst a mass of snags and overhanging willows. Surrounding vegetation makes casting difficult but by carefully easing into a position close to the rising fish and fishing a short cast the fish may be tempted. Often a good cast is spoilt by the exuberance of one of the many small rainbow and brown trout which rise freely throughout the lower Tongariro as they latch onto the fly. However some of these are resident fish of 1 to 2kgs and quite splendid in their own right.

The hardest task, though, is landing a large brownie who invariably makes the most of any obstructions and underwater snags in the pool. A brownie will often remain in a pool for several weeks but once pricked by an angler it rarely makes the mistake again.

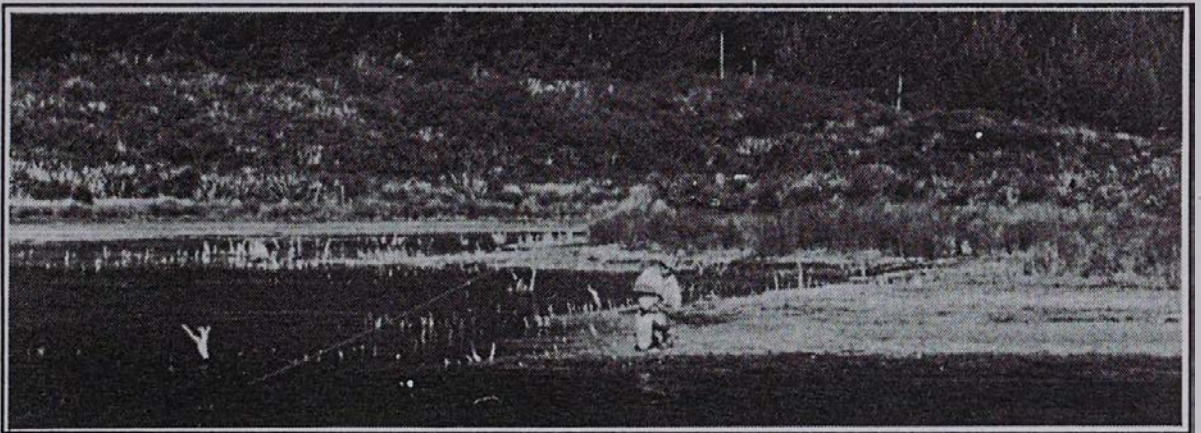
Another technique used in the lower Tongariro is to fish a marabou muddler minnow downstream on a floating or slow sinking line at night. It is often a lot easier to swim one of these into a snag infested lie rather than cast a dry fly into the same place.

Occasionally browns can be seen cruising the shallow gravel reaches on a regular beat. The angler should define the beat then wait until the fish has moved well away before dropping a weighted nymph onto the bottom in its expected path. As the fish approaches to within a metre or two of the nymph the angler moves the nymph in a couple of short spurts along the bottom. Hopefully this attracts the attention of the fish which will turn and pick up the nymph.

As the browns move up the river they congregate in the Hydro Pool in preparation for running up the Mangamawhitiwhiti Stream which enters on the true right bank. Here, in late February, anglers use traditional Tongariro downstream techniques fishing from either bank to regularly take browns in excess of 4.5kgs.

Large numbers of browns also run up the Whiti kau passing through most of the popular fishing pools where they are exposed to little fishing pressure with the exception of the Hydro Pool. These pools are worth exploring, particularly fishing downstream at night in places such as the Breakaway.

The most overlooked brown trout fishery is Lake Otamangakau which boasts a large population of brownies up to 4.5kg. These fish are taken occasionally by anglers targetting the trophy rainbows but few anglers specifically fish for them. Yet in the secluded arms of the lake an observant angler will often see numerous brown trout cruising amongst the drowned stumps and weedbeds. Those of you who have fished there this season may well have seen an angler or two creeping bent over around the shore and thought it looked a little incongruous in the Taupo fishery. However one of those anglers was probably Rob McLay who applies techniques learnt over many years fishing for cruising browns in the South Island, to consistently catch fish he rates as the best conditioned browns in New Zealand.



The 'sneak' approach pays dividends on Lake Otamangakau

His technique is to cast unweighted damselfly nymphs, chironomid or snail imitations into the path of cruising fish, often in only a few inches of water. The fly is usually left to sit or is retrieved very slowly and he strikes at any movement in the end of the fly line or leader. This technique can also be used to fish blind in the channels amongst the weed beds. Hooking a fish is only the start of your problems but it is a type of fishing challenge not offered elsewhere in the Taupo fishery.

For those of you seeking a peaceful solitary setting, consider fishing Lake Kuratau on the western side of Lake Taupo. This lake holds good populations of both brown and rainbow trout upto 3 kgs and can be fished from the shore or a quietly drifting boat. By casting along the edge of the weedbeds and around the myriad of snags some very productive fishing can be had, even if the fish aren't huge.

Fishing for brown trout is rarely easy at Taupo but it does present some interesting angling challenges and the rewards of success can be some splendid fish. It is something to bear in mind if you are looking for a different experience at Taupo. ■

3. SPRING-SUMMER HUNTING SUMMARY

The spring sees the hills filling up with hunters again after the quieter winter months and this year was no exception. A total of 2157 hunters obtained permits for the spring-summer permit period in the Tongariro/Taupo Conservancy, up 35% on the winter period. The figure, however, is down slightly on last year's spring-summer total of 2375.

December appears to have been the most productive month of the October-January period for most areas. January was surprisingly unproductive in terms of kills, possibly as a result of the very dry conditions. The high encounter frequency for this month would suggest the animals had some kind of advance warning, not surprising considering the "weet-bix" conditions which were experienced underfoot in the forests during this unseasonally dry period.

Overall, however, harvest rates and hunting effort are not dissimilar to other years.

A total of just on 600 hunting diaries went into the prize draw on Friday, 22 February, representing 28% of permit issues.

Winners of the prize draw were as follows:

Air transport with Helisika:

Wayne Svensson, Taumarunui

Air transport with Lakeland Helicopters:

Peter Moody, Taupo

Air transport with Air Charter, Taupo:

G Rutherford, New Plymouth

Air transport with Turangi Scenic Flights:

J Corban, Ohura

Sports goods from "The Fly and Gun Shop", Taupo:

Kevin Harrison, Hamilton

Accommodation at Sika Lodge, Clements Road:

Arthur Gregory, Auckland

Congratulations to all winners including those ten hunters who received free copies of this issue of **Target Taupo**.

To those who missed out - thanks for the information and better luck in the June draw.

A summary of the information collected from the spring-summer hunting dairies is presented for your benefit in table 1.

Of interest is the continued increase in red deer in the Kaimanawa Forest Park harvest. This is probably related to the general decline in helicopter-based deer harvest over the wider Kaimanawa area. Helicopter hunting has far more impact on the red deer herd than the sika herd, due to the behavioural differences and habitat preferences of the two species.

AREA	BLOCK	DAYS HUNTED	ENCOUNTERS				KILLS				DAYS/ ENCOUNTER	DAYS/ KILL	
			BIKA	RED	PIG	GOAT	BIKA	RED	PIG	GOAT			
KAIMANAWA RECREATIONAL HUNTING AREA	Clements	289	169	8	4	-	44	5	1	-	1.5	5.8	
	Hinemaiiaia	146.5	61	2	-	-	8	-	-	-	2.3	18.3	
	Cascade	35	40	4	-	-	3	1	-	-	0.8	8.8	
	Kaipu	13	10	-	1	-	1	-	-	-	1.2	10.0	
	Oamaru	97.5	95	1	-	-	18	-	-	-	1.0	5.4	
	Tikitiki	17	22	-	-	-	2	-	-	-	0.8	8.5	
	Te Iringa	13	21	-	-	-	10	-	-	-	0.6	1.3	
	Jap Creek	13	28	1	-	-	4	1	-	-	0.5	2.6	
	Upper Oamaru	4	1	-	-	-	-	-	-	-	4.0	-	
	ALL	671	461	16	5	-	107	7	1	-	1.4	5.8	
1989/90 figures	734	583	28	10	-	110	11	4	-	1.2	5.9		
KAIMANAWA FOREST PARK (excluding RHA)	Waipakihī	241.5	110	67	1	-	30	25	1	-	1.4	4.3	
	Desert Road	26	13	11	-	-	1	1	-	-	1.0	13.0	
	Access 10	38	13	12	-	-	9	5	-	-	1.5	2.7	
	Umukarikari	31	1	30	-	-	-	8	-	-	1.0	3.9	
	Mount Urchin	12	14	11	-	-	5	3	-	-	0.5	1.5	
	Waotaka/Whitikau	11.5	5	16	-	-	1	5	-	-	0.5	2.0	
	Waimarino	3	1	1	-	-	-	-	-	-	1.5	-	
	Kiko Road/Tauranga-Taupo	115	74	23	-	-	14	7	-	-	1.2	5.5	
	Tiraki	4	8	-	-	-	3	-	-	-	0.5	1.3	
	Rangitikei	27	19	24	-	-	5	12	-	-	0.6	1.6	
	Ecology	-	-	-	-	-	-	-	-	-	-	-	
	Ngaruroro	36	23	12	-	-	7	6	-	-	1.0	2.8	
	ALL	607.5	320	240	3	-	96	87	2	-	1.0	3.3	
	1989/90 figures	801	432	224	14	-	110	72	7	-	1.2	4.2	
TONGARIRO NATIONAL PARK	Rangataua	82	-	83	-	-	-	25	-	-	1.0	2.8	
	Ohakune	30.5	-	27	-	-	-	10	-	5	1.0	3.0	
	Southwest	80.5	-	84	-	-	-	25	-	-	1.0	3.3	
	Hauhangatahi	11	-	15	-	-	-	7	-	-	0.7	1.6	
	Whakapapa	30	-	25	-	-	-	13	-	-	1.2	2.3	
	Pihanga/Tihia	14	1	6	-	-	-	3	-	-	2.0	4.6	
	Desert Road	12.5	7	7	1	-	2	3	-	-	0.8	2.5	
	ALL	335	11	277	1	5	4	103	-	5	1.2	3.1	
	1989/90 figures	411.5	14	326	7	32	6	111	3	13	1.2	3.1	
TONGARIRO FOREST	ALL	359.5	5	191	14	100	-	112	9	57	(Deer & Pig Only)	1.7	3.0
	1989/90 figures	232	-	65	5	88	-	42	6	57		3.3	4.8
ERUA FOREST	ALL	45.5	-	45	2	76	-	15	2	23	(Deer & Pig Only)	1.0	2.7
	1989/90 figures	57.5	-	33	2	163	-	20	1	54		1.6	2.7
RANGITAIKI FOREST	ALL	31.5	18	3	-	-	4	2	-	-	1.5	5.25	
	1989/90 figures	48.5	23	7	3	-	7	6	1	-	1.5	3.5	
LAKESHORE RESERVES	ALL	0.5	-	1	-	-	-	1	-	-	-	-	
UNSPECIFIED RETURNS	Whole Conservancy	178.5	-	-	-	-	13	25	5	6	(Deer & Pig Only)	-	4.2
TOTALS	Whole Conservancy	2229.5	-	-	-	-	226	352	19	91	(Deer & Pig Only)	-	3.7
	1989/90 figures	3210.5	-	-	-	-	282	400	38	145		-	4.5

TABLE 1: Tongariro/Taupo Conservancy Hunting Summary, October 1990 - January 1991

In comparison, the figures for the RHA are consistent with last year, with red deer accounting for 10% or less of the harvest.

The significant increase in red deer harvest shown in the table for Tongariro Forest this period is attributed to the efforts of a few local hunters who have in the past not put in hunting returns. The 'capture' of this extra data has helped boost the effort figure by 50% and the harvest has shot up accordingly. Despite a large increase in the reported effort and deer

harvest on the same period last year, the reported goat harvest has not changed. Hopefully this reflects a downward trend in numbers following the efforts of local hunters and DOC in the area.

Publicity regarding goat numbers in Erua Forest also seems to have had an impact over the past twelve months resulting in many enquiries and a drop in the reported harvest for this area for the spring/summer period.

A new initiative is currently underway in Erua Forest involving the Waimarino Branch of the NZ Deerstalkers' Association, local DOC personnel and a local helicopter company. It is hoped this operation will have similar success to the Tongariro Forest operation and that once goat numbers have been reduced, numbers can be maintained at low levels indefinitely (see Bitz 'n' Pieces section of this issue.)

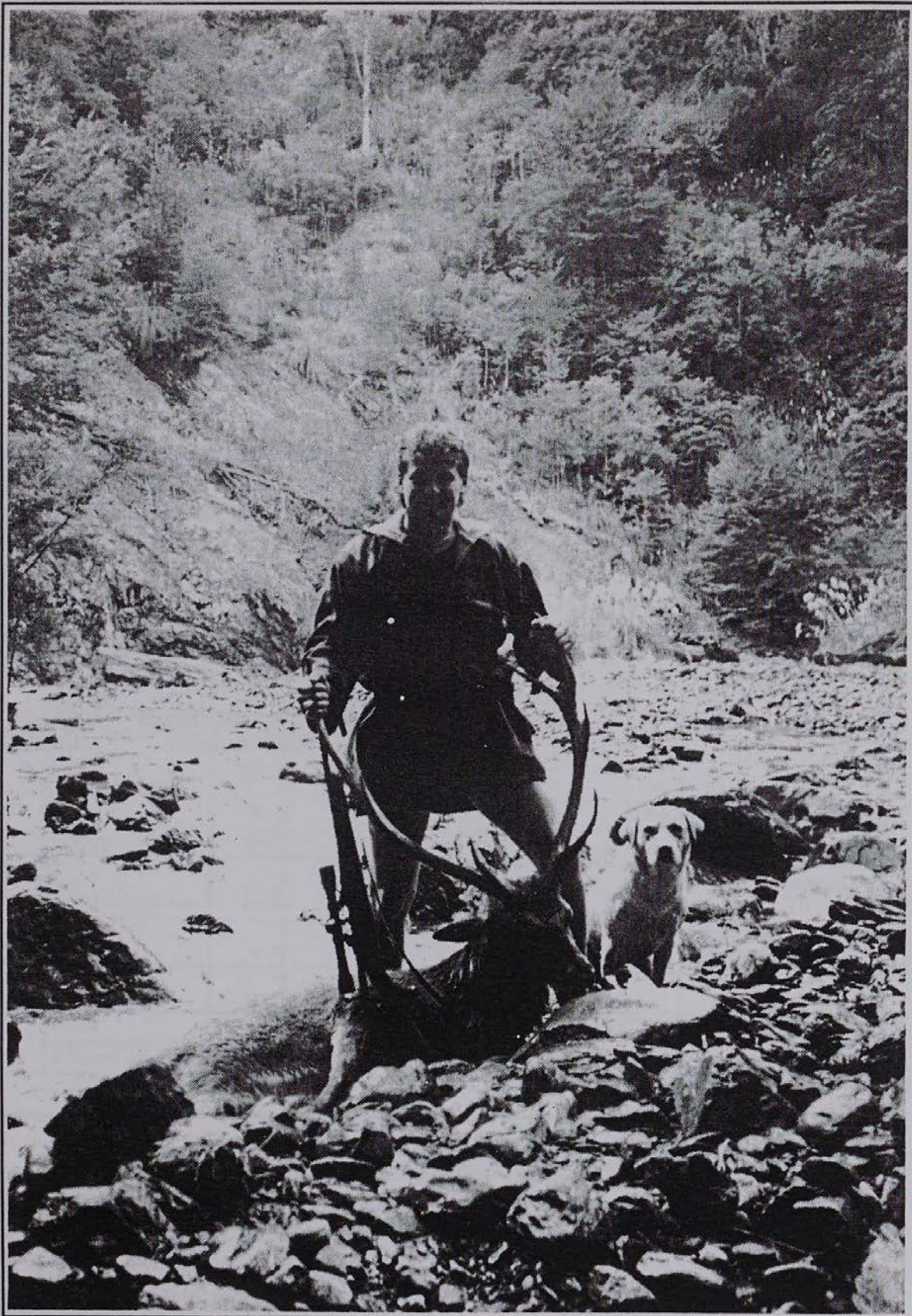
Table 2 summarises department goat control operations for the period. Farm escapes still give cause for concern in many areas, particularly in Tongariro National Park. Your assistance in reporting any goat sightings or kills in areas generally regarded as goat-free would be appreciated.

<u>Area</u>	<u>Hunter Days</u>	<u>Helicopter Hours</u> <u>(Hughes_300)</u>	<u>Kills</u> <u>(Goats)</u>
Pukawa	1	-	8
Tongariro Forest	18	1.5	135
Tirohanga	2	-	13
Aratiatia	3	-	30
Okama	3	-	8
Omori	0.5	-	-
Erua Forest	0.5	-	6
Tongariro NP (Ohakune)	1	-	7
Totals	29	1.5	207

**TABLE 2: Departmental Hunting Summary
October 1990 - 31 January 1991**

Our red hot tip for the roar is still Ecology Stream but keep your eye on the Tongariro Forest over the next 12-24 months. As some of those younger red stags gain a bit of age there should be some pretty fine trophies come out of this area. There have been some very big young stags taken from Tongariro Forest this summer.

Good luck for the roar and don't forget to return those dairies at the end of May. ■



Tongariro/Taupo managers are also users of the resource. Cam Speedy with a top jap, shot in Kaimanawa Forest Park within a couple of hours of the road end, March 1991. Douglas score 193.



Heli-Sika

HUNTING FISHING SCENICS



Hunting

Heli-Sika offers hunters affordable access to excellent Sika Deer hunting on our exclusive private land and for Red, Sika and pig hunting in the forest parks and other private blocks.

Ideally located on Poronui for convenient access to Dept of Conservation huts in the Kaimanawas, Kawokas, Ureweras and Hauhungaroas. Professional guides available.

Guaranteed Trophy Stags. Car security at the Poronui Deer Farming Complex.

Fishing

Exceptional Brown and Rainbow trout fishing in the Mohaka, Ngāruoro, Taharua, Rangitikei and Ripia. Guides available.

Other Heli-Sika Options Include:

Scenic flights taking in the mountains, Lake Taupo, Huka Falls and geothermal areas; jet boat trips; white water rafting; wilderness horse trekking; and aerial photography.

Contact

Taupo: Phone Shamus (074) 42-816 Pilot or write to "Heli-Sika", Poronui, R.D. 3, Taupo, New Zealand.

Auckland: Phone Garth (09) 653-103 or Greg (09) 537-1231 or write to: P.O. Box 51-482, Pakuranga, New Zealand.



THE FLY & GUN SHOP



**18 Heu Heu Street, Taupo
Phone (074) 84-449**

FOR ALL YOUR HUNTING AND FISHING NEEDS

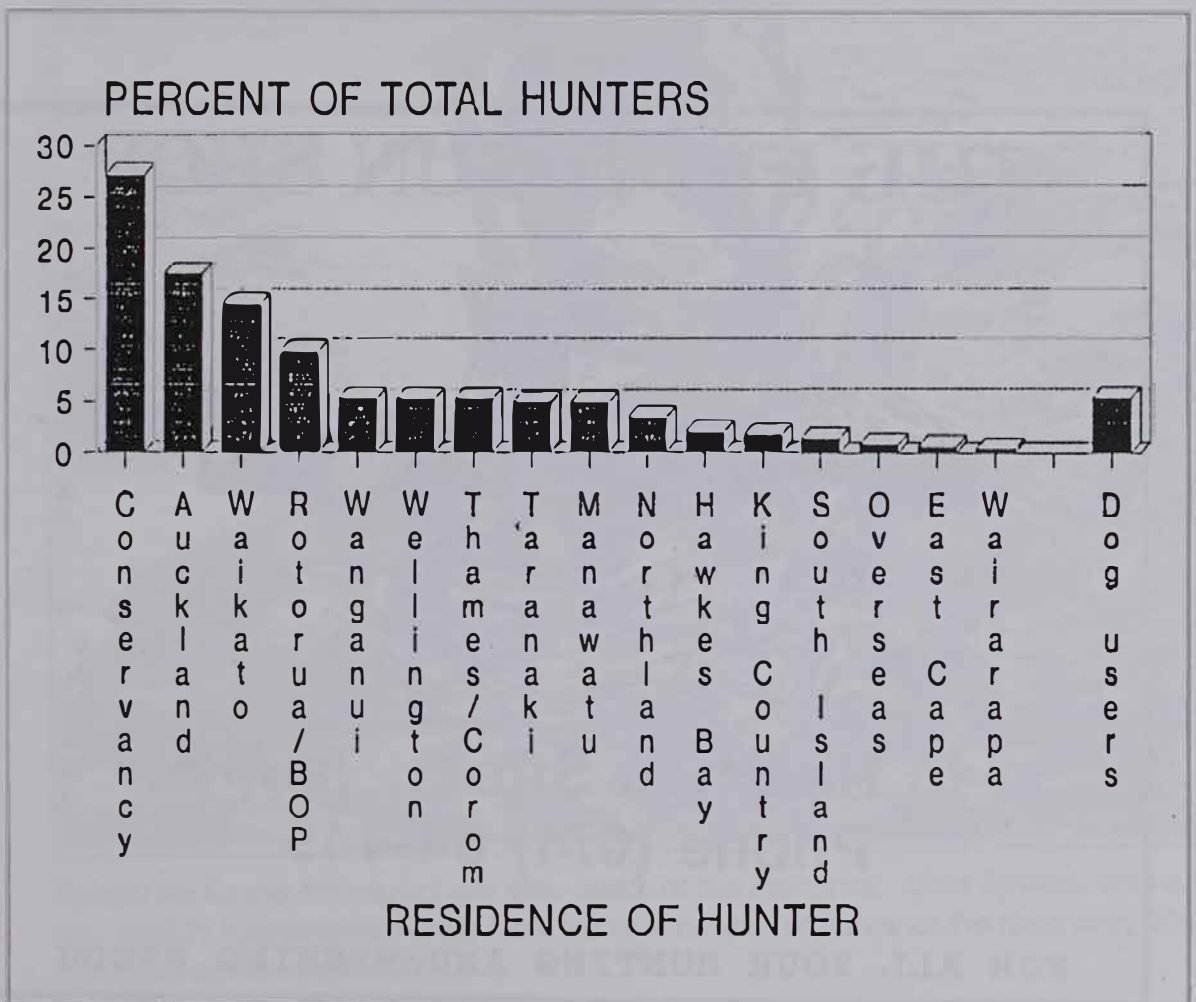
4. WHO HUNTS IN THE TONGARIRO/TAUPO CONSERVANCY?

The Tongariro/Taupo Conservancy has some of the highest hunter numbers in the country. Last year over 3,100 hunters obtained permits for the February to May hunting season. From returns from approximately 35% of these permits, over 3,500 days of hunting have been recorded on local DOC estate, suggesting a total of some 10,000 days hunting effort for this period alone. The conservancy also has large areas of private wildlands, mostly administered by local Maori trusts, which have been developed for tourist and/or recreational hunting under lease arrangements, offering even greater opportunity for hunters.

A breakdown of the origins of those hunting on public land in the conservancy gives an interesting insight into the hunters who choose the central North Island as their destination.

The graph below shows the district of origin of the 3,100 hunters who obtained permits during the year of 1990.

Table 1: Tongariro/Taupo Conservancy Hunter Profile



By far the biggest proportion of hunters come from within the conservancy. This is not unexpected as hunters tend to hunt more in their local area than elsewhere.

The larger human populations in the Auckland, Waikato and combined Bay of Plenty areas contribute some 40% of the total hunters. These hunters have hunting closer to home at Pureora or in the Urewera tract, but seem to target this conservancy, perhaps because they wish to hunt sika or because of the type of country (e.g. tops hunting).

Wellington, on the other hand, does not contribute a very significant hunting effort for its size. This is likely related to the range of hunting opportunities closer to the capital in the Haurangi, Tararua, and Ruahine ranges, the Manawatu sambar and Wanganui fallow herds. Wellington hunters wishing to hunt sika also have the option of utilising the Kaweka ranges.

The rural regions of Wanganui, Taranaki, Thames and Manawatu supply numbers of hunters surprisingly close to those of the capital city. This supports the observation of a very high incidence of "R.D." addresses on hunting permits. Hunting appears to still be very much a part of life in rural New Zealand.

Hunters from the East Cape, Hawkes Bay and Wairarapa districts also have a range of hunting opportunities outside this conservancy, including nearby sika hunting in the Kawekas, and hence do not feature in terms of the overall effort.

Long distances from the South Island seem to put mainland hunters off visiting the central North Island despite a lack of feral sika in the South Island.

Low numbers of overseas hunters utilise public land in the central North Island, seeming to prefer the exclusive block type opportunity provided on private land. Australia appears to provide the most significant component of overseas hunters, with 18 of 31 permits issued to overseas hunters during the autumn hunting season of 1990 having Australian addresses. Other countries of origin included USA, Britain, Switzerland and Germany.

For interest, the proportion of hunters recording a dog on their permit was determined. Just over 5% of hunters had their permits endorsed to take dogs, the majority pointer or lab type gundogs, reflecting the preference for deer hunting over pig hunting within the conservancy. Pig hunting opportunity is somewhat limited on public land in the Tongariro/Taupo Conservancy although the Taupo lakeshore reserves offer some challenging pigs.

In summary, it appears the Tongariro/Taupo Conservancy caters for those hunters living west of the North Island's main mountain ranges, north of the Manawatu. Ninety-five per cent of hunters utilising this conservancy live in this part of the country.

Sika are likely to be a major drawcard for those hunters who have opportunity to hunt other species closer to home, but for many hunters less competition from helicopter venison recovery and alpine ecosystems are also likely to be an attraction.

Whatever the reasons that motivate hunters to utilise the wide hunting opportunity this conservancy offers, the end result is a high level of protection of its many, varied and unique ecosystems from the impacts of large browsing mammals. ■

Kaimanawa Forest Park Helipads

The additional trial helipads opened up for the 20 March-20 May period during 1990 will be open for the same period during 1991. All air transport companies with a concession to operate within Kaimanawa Forest Park have access to these areas. The sites are located in the Tiraki, Waimarino, Whiti kau and Waiotaka catchments in northern Kaimanawa Forest Park.

Wildlife Records

This year as you hunt in the Tongariro/Taupo Conservancy, we would like you to keep your eyes and ears open for any interesting wildlife. In particular we are trying to build up our databases on kaka, kiwi and native bats. If you encounter these special creatures during your hunting or fishing excursions we would be most grateful if you would make a note about them on your hunting diary. We will contact you if we require more details regarding your observations.

Hunters especially have been an invaluable source of information in the past because they get into those isolated gullies and valleys that trampers and anglers often miss. Help us to help New Zealand's rare and endangered wildlife. Report all observations to the Turangi office!

Hunting Permits

Are you one of the numerous hunters who request permits but never receive them? Each permit period we get a number of re-issued hunting permits returned "Not this address".

Please, when you return your hunting diary, make sure your address is clear and correct. This will avoid delays for you, and save on our receptionist's valuable time. To those of you who are now faxing permit requests in instead of phoning - our receptionist says "Thanks". Our fax number is (074) 67 086.

Beware - Thieves Operating

Thefts from vehicles parked at road-ends are nothing new. The low life forms that share this world with us periodically ruin trips for many park users with their undesirable behaviour. To some degree you can combat this activity by removing all items of value from your car before locking it up, but there is nothing more frustrating or annoying than to return to find windows broken, wheels stolen, or worse, your car gone. This type of thing does happen, but it is irregular and often opportunistic, making it very difficult to stop. Being dropped off is the only sure way of avoiding it and a number of small businesses have started up in the central North Island to provide such a service. If you are interested you should ask about it at the Department of Conservation office in Turangi.

Once a park user is away from the road-ends and back up in the hills, one might expect things to be a little safer, but alas, the low life even get 'out the back' these days. Over the

past six months there have been numerous instances of thefts from back country huts. Food, cameras, money and other equipment are no longer safe left in huts it seems.

Boyd Lodge, Tussock Hut and Oamaru Hut have all been the scene of such activity in recent months, however Cascade Hut seems to be worst affected.

If you are using this area over the roar, please be aware that your gear may be the target of thieves, and if you see or hear anything suspicious, contact the Department of Conservation or the Taupo Police.

Tongariro Forest News

Hunters report some good animals being taken during December/January. February has been a very quiet month with not many people hunting the area.

More aerial goat control using a helicopter was undertaken in February, the area hunted being the upper Whakapapa River and the steep country to the west of Oio.

TAUPO, NEW ZEALAND



**SIKA
LODGE**

Situated right on the boundary of Kaimanawa Recreational Hunting Area and Kaimanawa State Forest Park, *Sika Lodge* provides budget accommodation with hot showers, full toilet facilities and well equipped communal cooking area. Your own sleeping bag will be necessary.

Vehicle security service can be offered.

SIKA LODGE
Phone Brent or Val Keightley
Taupo (074) 84-728
for reservations

PLEASE BOOK EARLY

The twin huts on Kapoors Road burned the ground late last year in mysterious circumstances. It is not intended to replace this facility, therefore hunters who were intending to stay there during the roar will have to be equipped for camping.

Southern Erua Goat Control

After an earlier hunt was postponed due to inclement weather, a successful operation was carried out by members of the Waimarino Branch of the NZDA on 23/24 February, resulting in 60 goat kills. This represents a reduction in goat numbers somewhere between 33 and 50 percent.

The hunt was the first stage in a three stage operation to reduce the goat population in the Southern Erua forest. Stages two and three commenced on the 5th of March and involved the use of a Hughes 300 helicopter in the more inaccessible areas of the forest. Three sorties were flown in pursuit of goats.

The follow up and final stage of the operation will require departmental employees hunting with dogs to destroy the remaining way goats.

It is hoped at the conclusion of this operation that goat numbers will be reduced to such a level that their presence will have little effect on conservation values and will only require a limited input of departmental resources to maintain the population at an acceptable level.

Good news

Good news for Oamaru hut users is that we are putting in a wood shelter so you don't have to stack wood under the eaves along the back of the hut to keep it dry. Use this box and alleviate a dangerous fire hazard. There is also a new grate in the stove!

Clements Road edges will be rotary slashed late February so people should be able to see and dodge oncoming traffic. The section of the track past Te Iringa Hut which had vanished down the hillside should be made more easily negotiable by early March.

Other tracks in the RHA are all open at time of writing.

Some Useful Hints

With the approaching 'roar' and the added influx of many hopeful hunters into our forests let us pause, take stock and remember a few basic responsibilities we all have when using these areas.

Firstly be aware of other users - all have equal rights to be in the bush.

Trampers don't take too kindly to a bullet whistling past their ear or to being bailed up by someone's prize 'finder' any more than the young hunter about to bag his first, and of course 'trophy' stag, which is suddenly disturbed by a group of brightly clad trampers bursting into full song up the track. Hunters, you don't want to be the one to pull the trigger on your mate or someone else, and trampers and others be aware that this is a special time for our hunting fraternity. Our huts will be under extra pressure so once again a bit of consideration for other users goes a long way. If you use wood, gather more (dead wood of course!), keep the hut tidy, pack out your rubbish (you brought it in!) and PLEASE don't drop deer carcasses in rubbish holes. They not only stink but create a health hazard and a rat problem.

Also don't forget your hut fees - it's not much to ask for a decent shelter miles from anywhere.

Conservation at its best

An incident which occurred on a trip with a group to Te Iringa Hut during our Summer Nature Programme:

An English lass in the group, upon reaching the hut obviously dying for a 'fag' pulled out a packet and lit up. Two or three puffs later she reached into her bag and out came a miniature ashtray complete with lid, into which she proceeded to tap the ash and finally stubbed the butt as well.

A really 'dedicated' smoker who was certainly in tune with our "Pack it in - Pack it out" policy.

PUREORA FOREST PARK 1991 HUNTING COMPETITION

The Department of Conservation, with the support of local branches of the New Zealand Deerstalkers Association, offers hunters the opportunity to take part in this, the fourth annual hunting competition. The purpose of this competition is to gather information on the Pureora deer herd while at the same time providing an opportunity for hunters to meet their local DOC staff.

ENTRY:

No entry fee is required. The competition is open to all hunters holding a valid permit to hunt in Pureora Forest Park between the 20th March and the 28th April 1991.

1st Prize - A Winchester Model 94 30/30 rifle, valued at \$895.00,
supplied by Vern Wilson, Hunting and Shooting Consultants

2nd - 4th Prize - Goods to the value of \$100.00

5th - 10th Prize - Goods to the value of \$50.00

In addition to these major prizes there will be numerous spot prizes awarded on the day. Bring along your heads, the good, the bad and the ugly; they all have a chance at a prize.

PRIZEGIVING:

The prizegiving will be held at the Pureora Headquarters on Sunday 28th April, beginning at midday. Refreshments will be available (a beer and a BBQ). Bring the family, come along and make a day of it.

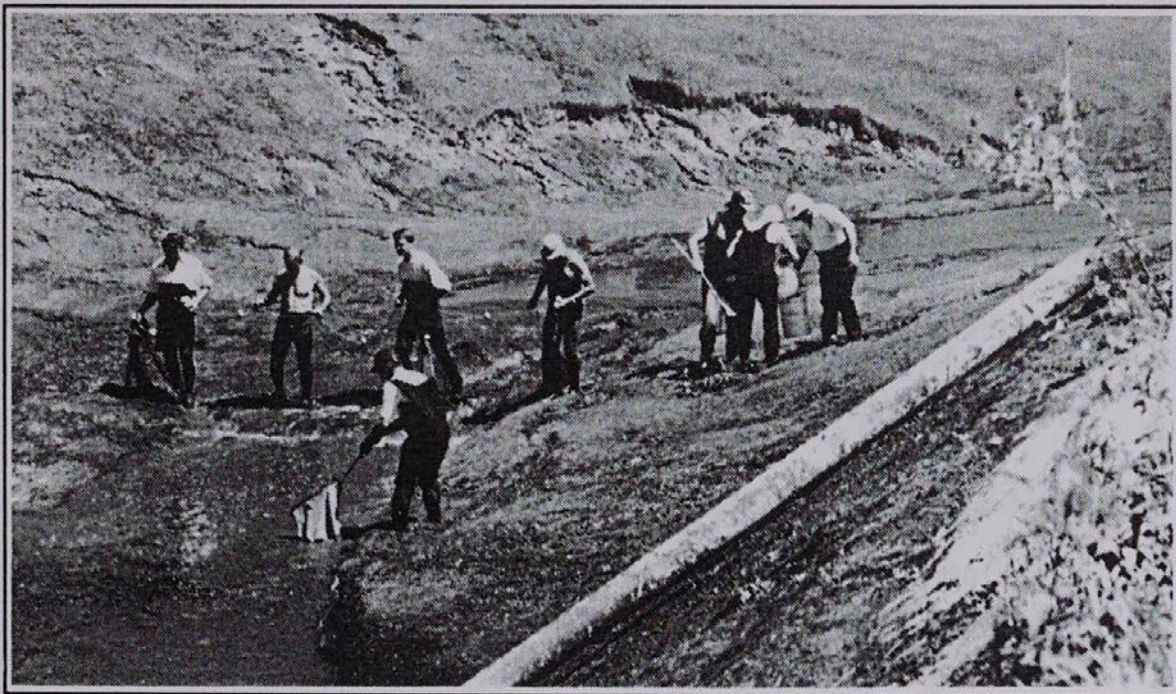
**FOR FURTHER DETAILS
SEE YOUR MANIAPOTO DISTRICT HUNTING PERMIT
OR CONTACT DEPARTMENT OF CONSERVATION
PUREORA FOREST (081348) 773
OR TE KUITI (0813) 87 297**

Fish Salvages

DOC fisheries staff have undertaken three salvages in the past month. The first involved rescuing fish in the headrace canal above the Kuratau Power Station after this was drained for annual maintenance. Staff were assisted by four volunteers from the local chapter of Trout Unlimited and the fish rescued released again in the Kuratau River below the power station. Lake Kuratau was also lowered but this was done slowly and not dropped to a level which endangered the fish.

The second salvage involved rescuing trout stranded when the Poutu Canal was also drained for maintenance. Most trout went with the flow and into the Poutu River but a few were cut off in rapidly receding pools and had to be netted and transferred back into the Tongariro. Several of the fish were 2.5 to 3kgs in weight and in exceptional condition.

The third salvage rescued trout from the old river channel below the Kuratau dam when the flow was cut off to refill the lake. Eighty-nine adult rainbow and brown trout up to 3kg and several juvenile trout were captured from the pool at the base of the dam and released back into Lake Kuratau.



Staff and volunteers in action in the Kuratau headrace

Three Fish Bag Limit

The new three fish daily bag limit introduced on 20 December has generally been very well accepted. Our compliance field staff and survey interviewers have contacted several thousand anglers since the new limit began and have received almost unanimous support for the measure.

Many anglers commented that while the reduction from eight to three fish per day had initially seemed a bit drastic to them, on reflection they realised that by and large they rarely caught more than three trout before.

More recently we have had some disturbing reports that some anglers at river mouths, predominantly locals, are killing all the fish they catch, selecting the three best to take home and dumping the rest. This is a pretty irresponsible practice and any blatant offences detected are likely to be dealt with severely by our compliance and enforcement staff. Here's hoping the practice doesn't spread.

Taupo Fishery Advisory Committee

The interim Taupo Fishery Advisory Committee has now held its second meeting. Topics discussed included the new bag limit, disease problems in New Zealand trout and salmon, the risks of importing untreated used fishing tackle and fishery access.

A special meeting of local members of the committee also considered the fishery business plan and budgets prepared by DOC in March.

1990 Liberation from the National Trout Centre

From the children's pond at the National Trout Centre to rivers in the Canterbury foothills, eggs and trout produced from wild Lake Taupo rainbows found their way into lakes and rivers all over the country.

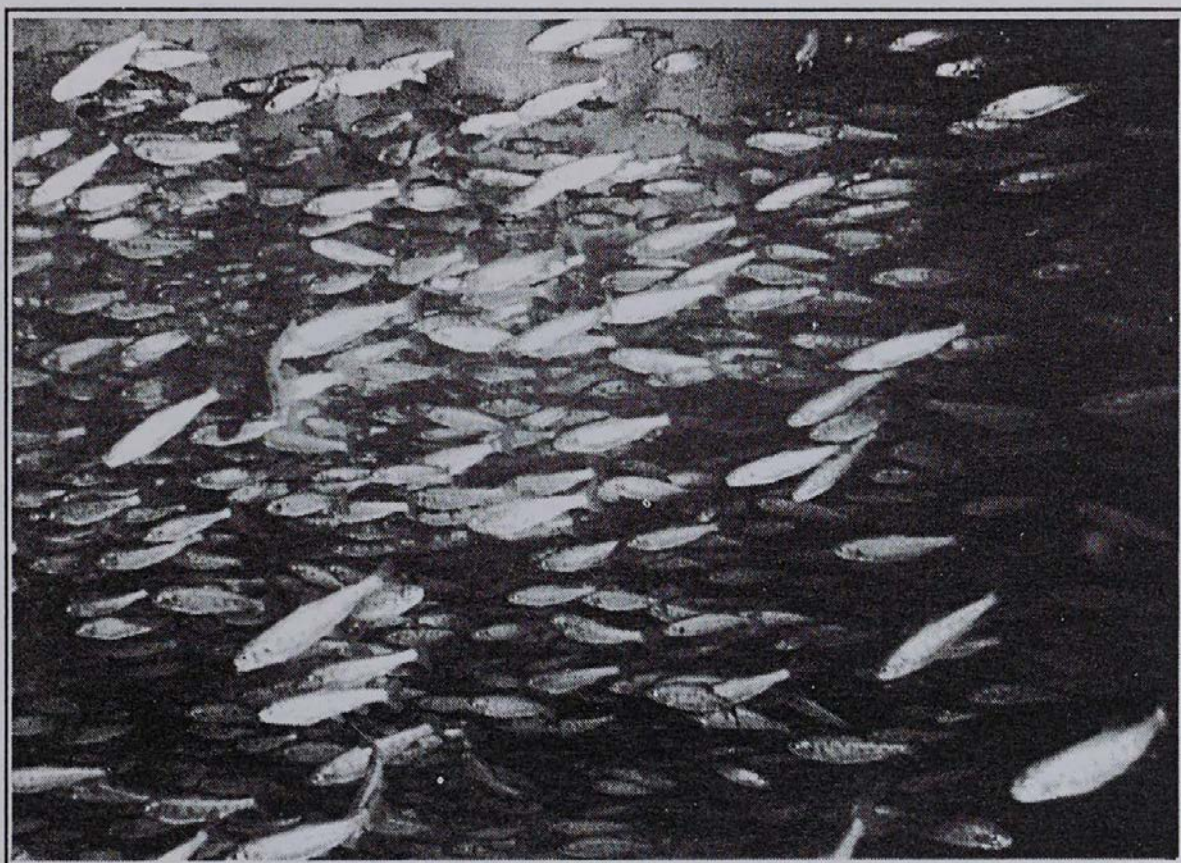


Fertilizing the eggs with the milt of a male fish

One hundred and forty-three thousand eggs were collected. Ten thousand went to Masterton where pupils from Masterton Intermediate School raise them to fingerling size for release into Wairarapa rivers. Forty thousand went to Hawera to be raised for release in Taranaki and 50,000 went to North Canterbury to be planted in headwater rivers. The remainder are being reared at the National Trout Centre.

Ten thousand yearlings were released in Lake Rotoaira and 7,000 were put into the children's pond. Two-year-olds taken from the pond after the last fish-out day were distributed to Wanganui (500), Waimarino district (350), Taranaki (700), the Branch Hydro lake in Marlborough (810), Masterton (250), Whitby in Wellington (250) and Palmerston North (600). Massey University bought 60 two-year-olds for research work and 15 went to top up the tank in the Arena Nightclub in Wellington.

An additional 2000 yearling brown trout resided briefly en route from the Eastern Region Fish and Game Council hatchery at Ngongotaha to Taranaki and Wanganui. One thousand yearling river resident strain rainbows also paid a brief visit en route from Ngongotaha to the Wairarapa.



Growing fingerlings in the hatchery raceway

The demand for two-year-old fish to stock small lakes and children's fish-out ponds has increased considerably, to the extent that the surplus of 485 from Ngongotaha children's pond had to be bought to meet it. The demand for yearlings, however, continues to fall and the season's orders for ova were down on previous years - in some ways this was welcome

as they proved difficult to obtain when required due to the low runs of spawning fish in the traps.

Harvest Survey Update

The Department of Conservation trout harvest survey is now into its ninth month, concentrating at present on Lake Taupo. As the winter spawning season approaches the survey will also return to the banks of the Tongariro River to sample the anglers fishing the early part of the winter season, typically a time of heavy angling pressure on the Tongariro. March /April is also when the Tongariro is fished by those seeking the elusive brownies, so survey staff will be out in force to obtain as many interviews as possible.

The Christmas-New Year period was very busy on Lake Taupo with large numbers of anglers counted and interviewed. The early morning flights on the 27th, 28th, and 29th of December all showed that more than 350 anglers were out on the lake. The influx of visitors to the area was very obvious, especially along the eastern shores where counts between Hatepe and Motuoapa exceeded 150 anglers on several occasions. The congestion of boats seen at Motutere and Motuoapa one morning must have caused a few problems as lines from different vessels crossed each other.

Initial analysis of the catch rates for December show that the number of fish caught per hour shallow trolling was slightly down on December 1989, although deep trolling was more productive last December, with 0.25 fish caught per hour compared to 0.22 the year before. Fly fishing at the Tongariro delta produced on average two fish for every hour of effort, although for every fish kept for the pan another was returned, probably indicating a large number of recovering fish in the area.

From March until the completion of the survey at the end of June, survey staff will be out at the boat ramps on another 14 days, while 12 more days will be surveyed on the Tongariro River. There is a good chance in the coming months that anglers will be approached by survey staff to give information on their day's fishing; the more anglers we talk to the better our results will be. The co-operation of anglers so far has been greatly appreciated, so thank you to all those who have given a couple of minutes of their time at the boat ramps and river banks.

Tauranga-Taupo River Access

A common misconception amongst anglers fishing the Tauranga-Taupo River is that the vehicle access up the true right bank past the quarry is a public road. In fact it is private land and any vehicle access is entirely at the discretion of the owners. At present anglers can use this road if they pay \$2 a day or alternatively \$4 a month for a permit available from the Te Rangiita Store.

All weather public access is provided by DOC on the true left bank as far as the intersection of the track off Tuki Road and the gravel track across the fourth paddock south of Tauranga-Taupo garage. The 20m right-of-way along both banks to licensed anglers on foot extends

TAURANGA-TAUPO RIVER

RANGERS POOL
LADIES MILE

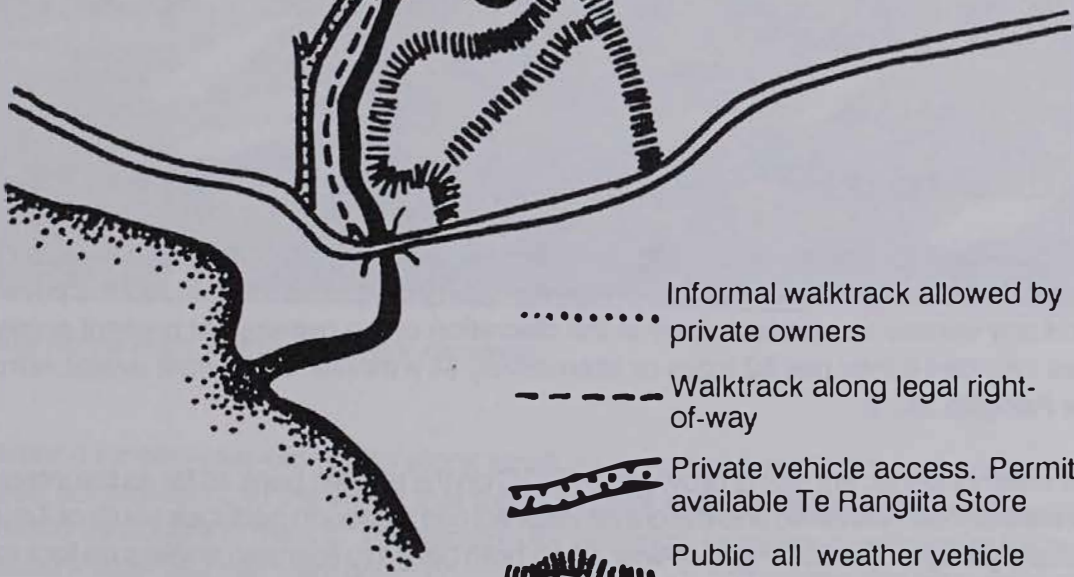
CLIFF POOL
THE PARADE

THE AVENUE

Limit of three-mile right of way


PUMP POOL


CRESCENT



..... Informal walktrack allowed by private owners

- - - - - Walktrack along legal right-of-way

 Private vehicle access. Permit available Te Rangiita Store

 Public all weather vehicle access

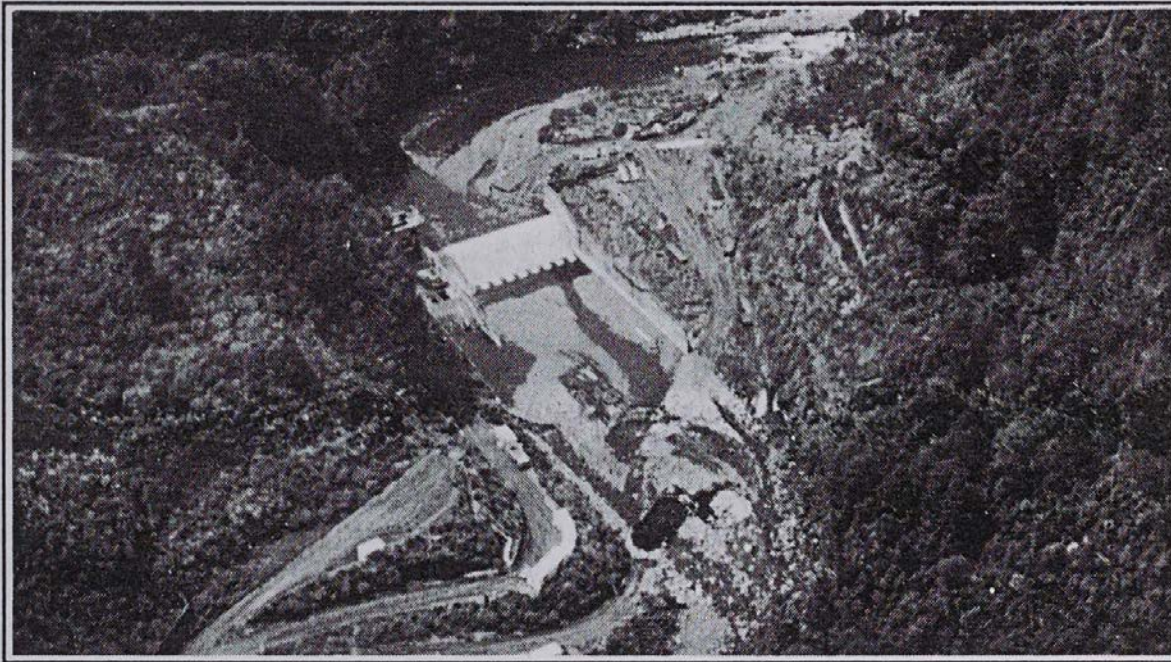
three miles from the river mouth up to the Avenue Pool. Above this point foot access is a matter of the goodwill of the owners!

Anglers are asked to respect the private property by avoiding creating new tracks, climbing fences or littering the river bank.

Power Scheme News

Electricorp has commenced a project to modify the intake structure for the Whakapapa diversion which forms part of the Western Diversions of the Tongariro Power Scheme. This diversion enters a tunnel at the intake site and is joined by further diversions of the Mangatepopo, Tawhitikuri and Okupata streams before discharging into the Te Whaiarau arm of Lake Otamangakau.

Electricorp is altering the design of the intake structure so that gravel and small boulders will be excluded from entering the tunnel. To date this has been occurring during significant flood events and has caused considerable damage to the floor of the tunnel.



Work begins on modifying the Whakapapa Intake structure

The project, which is expected to run for six months, has been progressing favourably with the contractor implementing environmental and fishery protection measures in line with recommendations made by DOC staff. The construction of a large settling pond adjacent to the Te Whaiarau Canal will be obvious to anglers visiting the area. This has been built specifically to deal with waste (polluted) water discharging from the tunnel as a result of construction and repair works, as well as dirty water generated by sediment dredging of the canal itself.

DOC staff will be maintaining an overview of the project throughout its duration.

Effort and Resources

In order to gain an overview in the field of compliance and enforcement, field time and the use of available resources provide the department with a yardstick to measure performance and efficiency.

As far as fisheries compliance and enforcement are concerned, the most utilised resource is the officer. He provides the skill, flexibility, identity, expertise, profile, advice, etc., and is the general 'go between' for the public and the fishery. He provides the necessary functions of compliance and law enforcement at the work face.

He exercises authority pursuant to the Conservation Act 1987 ranging from being an information source to apprehending offenders. He becomes a "jack of all trades", capable of being involved in most anything and everything covering the conservancy.

In addition to his own resourcefulness, other resources are available to accomplish his goals. These include vehicles, boats and aircraft fitted with radios, motorcycles, canoes and horses, hand held radios, uniform and personal field equipment, support from other fisheries staff, conservancy support and an office base.

There are three officers covering compliance and enforcement full time. The position left vacant by Dan Delaney's resignation should be filled by early April 1991.

You will no doubt be aware that the allocation of resources is ideally directly proportional to the size of the resource that is to be protected.

The Taupo Fishery covers approximately 2980 kilometres of waterways. When you include the lake you realise the immensity of any problem, if and when it arises.

Obviously with so much at stake there is always a question of time management in terms of effort and how it is applied. The fishery provides the bulk of funding for compliance and enforcement and in return the vast majority of time is devoted to protection of the fishery.

For example : 672 manhours were worked over the month of January, 75% of which was devoted to the fishery - landside, lakeside and in the office.

Twenty-nine offence notifications were issued and ten verbal warnings given.

I am pleased to say that we have adequate resources to undertake and maintain a high level of compliance and enforcement within the fishery.

Ki te koro te putake e makukungia
E kore te rakau e tupu

Te Aohurihuri
Kia Ora tatou katoa

AN APOLOGY

In the March Issue, 1990, three photographs which accompanied fishing articles were provided by Alpha Photography, Taupo, but no credit was given. We apologise to John Parsons for this oversight and the delay in printing this apology.

FLY — IN HUNTING & FISHING HOLIDAYS AEROPLANE & HELICOPTER TRIPS

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and ŪRĒWERA NATIONAL PARK

HUNT: ★ SIKA DEER ★ RED DEER

FISH: ★ RAINBOW TROUT ★ BROWN TROUT



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**AIR CHARTER
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R.D.2, Taupo
Phone (074) 85-467
for more information

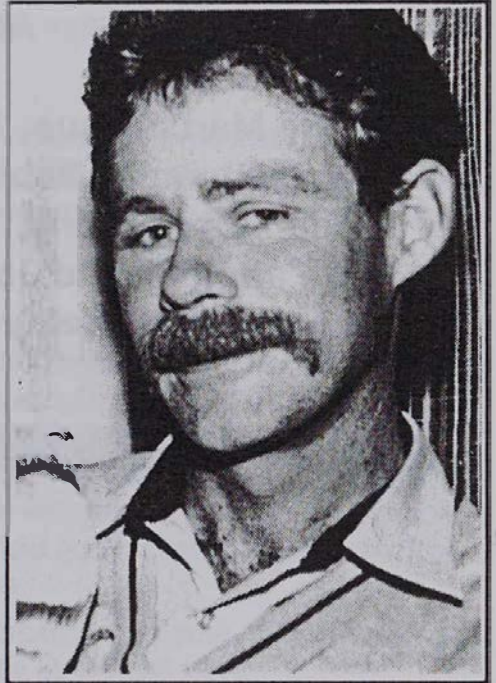
AIR CHARTER TAUPO

8. MANAGER PROFILE

Ian Goodison

Based at the Whakapapa Field Centre, Ian is responsible for the outdoor recreational facilities such as walking tracks, picnic and camping areas, signs, backcountry huts and roading. Many of these facilities are located within Tongariro National Park. Ian is also the overall supervisor of the Tongariro Forest conservation area plus ten scenic reserves between Raurimu and Kakahi. Other duties include search and rescue and firefighting, plus co-ordinating the Summer Nature Programme for the Tongariro/Taupo Conservancy.

In 1979, in search of a better lifestyle, Ian gave up a promising career in computers to become an outdoor guide specialising in whitewater rafting, skiing and horse trekking. He commenced working for Lands and Survey Department at Whakapapa in 1983 and became Ski Patrol Director in charge of public safety. Ian changed to more general park management duties in 1987.

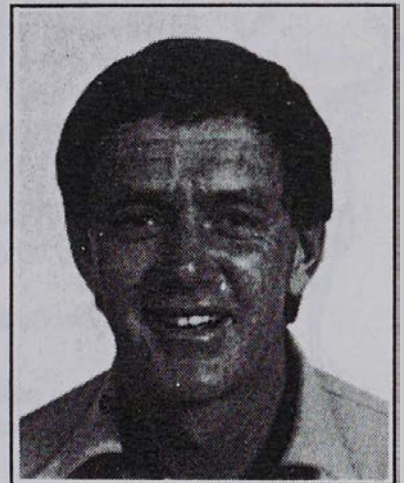


His wide sporting and general interests include fishing, skiing, watersports, photography, mountain hiking and geology. Ian holds a commercial pilot's licence and is a member of the Volunteer Fire Brigade and Ambulance Service.

John Carter

John is based in Taupo and is part of the 'hands on' team responsible for the northern lakeshore reserves around Lake Taupo, inland reserves stretching from Whakamaru through almost to Tarawera, Rangitaiki Forest and the RHA area of the northern Kaimanawa Forest Park.

Brought up in the heart of the central King Country John bought, developed and farmed a sheep and cattle property until late 1982 before joining the Lands and Survey team in Taupo with responsibility for lakeshore and inland reserves in the area.



With the inception of DOC in 1987 he picked up the additional responsibilities listed above. A 'bush baby' at heart with an affinity for the environment he enjoys working in, John's wealth of experiences foster an awareness within others of these special places. Interests include yachting, hunting with both rifle and camera, tramping and travel, and he is keen to explore the rest of New Zealand's 'special places'. He has recently purchased a mountain bike to help keep fit as he enjoys new challenges in the outdoors. ■

9. TARGET TAUPO READER QUESTIONNAIRE

As a reader of **Target Taupo** you are invited to have an input into the type of information you would like to read about in the newsletter. By answering the few questions below you will also give us a clearer picture of how we can best circulate the newsletter to ensure that all who are, or might be interested, can get hold of it. Your contributions and comments are appreciated.

1 How did you get to read **Target Taupo**?

- a Subscriber
- b Through your club
- c Purchased from sports shop
- d Other (please specify)

2 Is the newsletter useful to you as a hunter/angler or does it have just interest value?

.....

3 What other types of information would you like to see included in the newsletter?

.....
.....

4 General comments:

.....
.....
.....
.....
.....

A complimentary copy of each issue will be sent to your club or organisation and further copies are available at a cost of \$2.25 each (GST inclusive.) Individuals are also welcome to purchase copies. Please complete the form below.

Copies of earlier issues are available on request.

NAME OF PERSON/CLUB/ORGANISATION _____

POSTAL ADDRESS _____

PHONE NUMBER _____

Please send _____ copies of issue number _____ at cost of \$2.25 per copy. Enclosed is the sum of \$ _____ (cheque/money order)

OR

1 year's subscription (3 issues) beginning issue number _____ Enclosed is \$6.75 (cheque/money order).

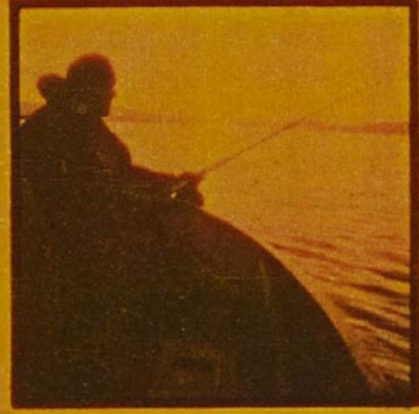
Copies additional to the complimentary will not be forwarded unless payment is received.

POST TO:

**Department of Conservation
Private Bag
TURANGI**

Attn: Shirley Weir

TAUPO



CONSERVATION
TE PAPA ATAWHAI



WORKING
FOR
YOUR
SPORT



A Sporting Paradise