MARCH 1990
Issue 3

TARGET TAUPO

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

CONSERVATION

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

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CONSERVATION

DEAR SPORTSPEOPLE,

Thanks again for the support you gave us with the last issue of Target Taupo. The interest shown by our readers continues to grow.

For those of you who are reading our magazine for the first time, welcome. If you like what you see — or even if you don't like it that much but want to have an input — please fill in the subscription form in the back of this issue.

Still the changes go on. The Conservation Law Reform Bill is yet to be passed, but preparation for its new measures continues. The Minister of Conservation has recently advertised for nominations for the new regional conservation boards. These boards will incorporate the roles of the present National Park and Reserves Boards, Forest Park Advisory Committees and the Recreational Hunting Advisory Committee.

Those of you with an interest in hunting (especially big game) and fishing should think carefully about nominating people who can capably represent your interests within the broader conservation spectrum.

On the local scene, the last month has seen the completion of a pilot survey aimed at accurately measuring the total catch of trout from Lake Taupo (read more about this inside). For those of you who were interviewed during this work, thank you very much for your co-operation. To anyone who feels missed out — don't worry! When the full 12 month study gets underway in July there is every chance you may be able to contribute to the knowledge and understanding vital to the management and protection of your fishery.

Remember, we welcome comment and feedback on all issues discussed in Target Taupo. If you would like to see an article on a topic we haven't covered, drop Cam or Glenn a note and we will see what we can do.

All the best and enjoy your hunting and fishing safely.

John Gibbs
Fishery Manager

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Please contact compliance staff:—

Dan Delaney, Phone 68607 bus, 68305 home
Brian Taylor, Phone 68607 bus, 66549 home
or Conservancy Duty Officer 68607 after hours

ANYTIME

1. THE "BIG O"

Lake Otamangakau, 20 minutes over the hill from Turangi, lies nestled amongst the pine trees of Rotoaira Forest against a backdrop of the tussock and mountains of Tongariro National Park.

Anglers are attracted by the lake's reputation as a trophy rainbow trout fishery but are often disappointed by a lack of success and many never return after that initial visit. However, the persistent become enthralled with the stark beauty and challenge this fishery provides. The lake offers rewards not easily found elsewhere in the Taupo fishery — solitude and a real opportunity to catch a trophy rainbow.

A GENERAL DESCRIPTION

Otamangakau, the English translation of which is "foul water," was formed in 1971 when the diverted waters of the Whakapapa and Wanganui Rivers were impounded as part of the Western Diversions of the Tongariro Power Development.

The lake is 60 hectares in area and very shallow with a mean depth of about 2 metres. Water drains from the lake through the Wairehu Canal into Lake Rotoaira to the southeast. A large inflow relative to its volume means water in the lake has a very short turnover or residence time of some 4 days. Similarly the high surface area to volume ratio results in significant increases in the temperature of the water passing through the lake with daily changes of up to 7 deg. C recorded during summer. Seasonally the water temperature fluctuates between 4 deg.C and approximately 20 deg.C.

Access to the intake canal and boat ramp area is via the road signposted "Wanganui Intake, Te Whaiau Dam, Otamangakau Dam, Boat Ramp" off the Pihanga Saddle Road (SH 47). The road signposted "Wairehu Control Gate" gives access to the outlet canal and eastern shore boat ramp. From these roads there are a number of other access points to the lake. For the most part the lake edge is relatively clear although care should be taken wading on the hardened mud which can be extremely slippery. Chest waders are an advantage, allowing the angler to wade to the edge of any exposed weed beds.

The lake supports rainbow and brown trout, short and long-finned eels, carp and a native galaxiid (Galaxias brevipinnis). Both bullies and smelt are conspicuous by their absence. Lake Rotoaira contains neither brown trout nor eels and it was considered necessary to prevent downstream movement of these species from Lake Otamangakau by installation of fish screens on the Wairehu Canal.

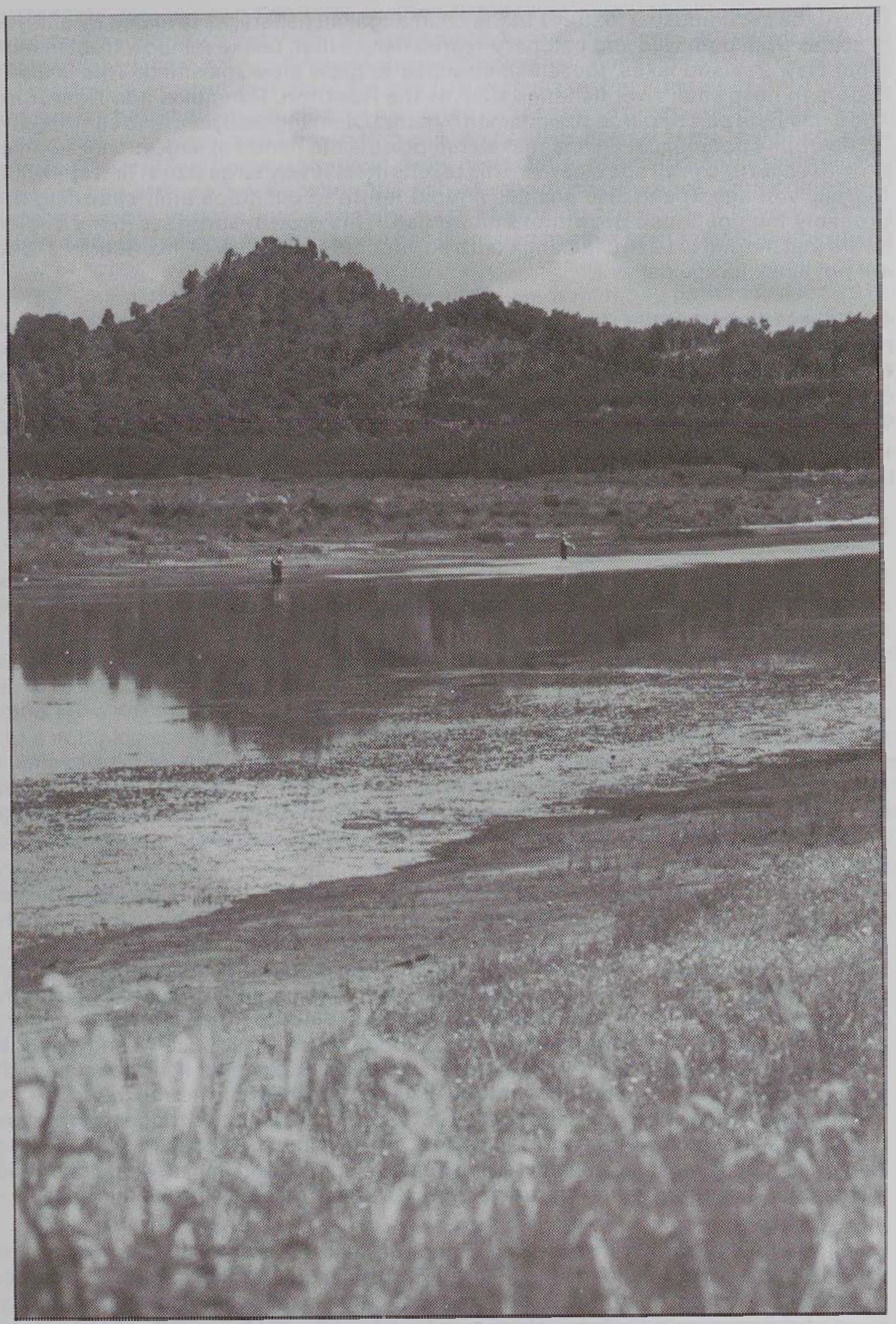
Initially the lake contained only native aquatic plants but introduced species such as Elodea have now established, probably transported on boats and trailers. Extensive weed beds occur over most of the lake and these support abundant insect life.

The invertebrate fauna of the bottom and weed bed communities includes snails, annelid and oligocheate worms, dragon fly, damselfly and caddisfly larvae and pupae, beetles, water-boatman and back swimmers.

THE FISHERY

Against most expectations, Lake Otamangakau did not follow the classic boom and bust cycle of a newly filled hydro lake and the trout population has maintained a fairly steady size structure, featuring occasional very large specimens.

The fishery is based on wild trout, spawning occurring in the inflowing streams which are utilised by many hundreds of fish. Every year from 1971 to 1986, 200 tagged rainbow yearlings were released but these were not intended to augment the wild population. Indeed their numbers were kept low to avoid this; their role was to provide data on growth rates and survival of trout in the system.



A typical Otamangakau setting (when the wind isn't blowing).

One of the most unusual features of the Otamangakau fishery, as revealed by analysis of scales from both wild and hatchery-reared fish, is that, unlike rainbow trout in most other New Zealand lakes, these fish continue to grow after spawning. This is also a feature in headwater river fisheries such as the Ruakituri, Rangitikei and Ngaruroro, and explains in part the large size attained by some Otamangakau fish. Also contributing to the trophy potential of Otamangakau rainbows is the period of exceptional summer growth occurring in all age classes. This results in relatively large size at first spawning (normally at age 3) and also enables a rapid return to condition after spawning and probably the continued growth of mature fish. This growth surprises many anglers aware that the diet of Lake Otamangakau trout is comprised solely of invertebrates, who are not small forage fish.

Dr Peter Mylechreest has described the lake fishery as functioning rather like a huge pool in a river. The largest rainbow recorded from Lake Otamangakau was a 6 year old female weighing 8.33kg and 83cm long, taken by Mr Ron Burgin in February 1983. Several other rainbows in the 7 to 8 kilo range have also been taken and fish over 5.5kg are caught each season. Brown trout make up 20 to 25 per cent of the anglers' bag but perhaps surprisingly do not seem to exceed 4.5kgs.

FISHING THE LAKE

Perhaps no water in New Zealand better exemplifies the old adage that 10% of the anglers catch 90% of the fish. Even those anglers who have mastered the intricacies of the lake rarely find it easy fishing.

The most popular techniques involve using a small boat and either drifting across the lake or anchoring along the edge of the weed beds. Alternatively, float tubes are ideally suited to Lake Otamangakau and allow the shore angler to cast over the edge of the weed beds. Using a weight forward 8, 9 or 10 floating line and a leader of often 5 to 6 metres in length, the angler casts out a nymph and gives it plenty of time to sink. If anchored the angler then retrieves very slowly, but if drifting slowly it can be just as effective to leave the line trailing. The strike if it comes, can be quite savage and the angler rarely needs to set the hook. It is often unexpected; one very fine 5.5kg rainbow took as the angler poured his cup of tea.

Having hooked a fish the angler still has a lot of work to do. In the shallow water the fish often seek out the large clumps of weed and a number of trophy fish are lost when the line becomes tangled around the weed. This is also a disadvantage when using a dropper as the trailing lure often hooks into the weed during a fight with a large fish. When fishing in one or two metres of water unweighted nymphs are used but over the edge of the weedbeds one or two turns of lead wire are incorporated into the fly pattern. The most common patterns are chironomid midge dressings on size 10 and 12 hooks and damselfly imitations. There is no need to be up at dawn as fish are taken right through the day. A graphic illustration of what can happen is illustrated by the experiences of Jim Ward one January day in 1988. Fishing with two friends had yielded one undersized rainbow in 7 hours. The next hour yielded fish of 5.2, 5.2 and 5.25kg. Nymph fishing is most successful from a boat but some good fish are also taken with this method fishing from the shore including the best we are aware of this season — 5.7kg.

Stalking cruising brown trout with a nymph in the shallow northern arm can also provide some entertaining fishing early in the season which begins 1 October. Nymphing success is otherwise limited until the lake begins to warm through November whereupon the fishing improves significantly, not falling off until late March or April.

During late January and February exciting fishing can coincide with the vast cicada hatches. On a hot sunny day with a good breeze, hoards of cicadas are blown onto the water and the lake may literally come alive with rising fish. For those of us whose lack of success make us wonder if there are any fish in the lake, the number of trout on the surface can be unbelievable. However, as often happens with green beetle hatches, the fishing can be exceptionally frustrating as fish after fish slashes at the real thing while ignoring the artificial floating amongst them. It is a matter of experimenting with cicada patterns and striking a time when the fish are more co-operative. One completely understandable mistake many anglers make is striking too soon. It is very hard to restrain oneself when a large rainbow has launched itself at your imitation amongst a cloud of spray.

Wetfly fishing, using a slow sinking flyline and killer or marabou patterns, also has its devotees. As with nymph fishing a weight 8 to 10 outfit is of most use allowing the angler to cast into the strong wind which so often is present. Wetfly fishing is most commonly practised in the inlet canal where it comes into its own late in the season (April to 30 June) as the lake cools and fish move into the canal in the quest to spawn. A large lure fished with a very slow retrieve after dark can also be a very successful way to take large brown trout in the lake proper.

The lake is also open to spin fishing which is practised particularly around the inlet canal using 3 to 4kg line and lures such as Black Tobies and Glimmies.

A TIP

While lots of fish are caught wetfly fishing and spinning nearly all trophy fish are taken on a nymph. The exception is late in the season when fishing a wetfly in the inlet canal can produce that 'fish of a lifetime.'

Over the past few years a small group of regular anglers have kept diaries of their fishing trips which provide a valuable summary of the condition of the fishery. These men, Anthony Swainson, Ron Burgin and Dr Nick Bradford, and in later years Jim Ward, Colin Philpott and R. Stephenson, are all skilled anglers and amongst the most successful on Lake Otamangakau.

Of particular interest are the records of Anthony Swainson which stretch back to the 1974-75 season.

Season	Fish per visit	Largest Caught (kg)
1974-75	1.7	3.3
75-76	1.9	3.2
76-77	3.1	3.3
77-78	3.1	3.9
78-79	2.5	4.1
79-80	3	5.45 & 4.5
80-81	1.8	3.6
81-82	2.2	4.8
82-83	2.4	4.1
83-84	-	-
84-85	2.5	3.2
85-86	1.9	3.6
86-87	2.5	4.5
87-88	1.9	4.5
88-89	2.4	4.1

Also attached is a summary of Jim Ward's diary for the 1987-88 season. Between Jim and the guests he so generously takes fishing, 535 hours of effort was recorded, a breakdown of which provides a good summary of what one can realistically expect from the 'Big O.'

Note that only fish greater than 35cm were recorded in this summary. Catch rate (CPUE) = number of fish/number of hours.

Season 1987-88

Month	Hours fishing	Rainbow	Brown	CPUE	Trophy Rainbows (kg)
October	51	5	5	0.13	5.13, 4.5
November	51	9	1	0.20	
December	74	9	3	0.16	5.15
January	71	4	1	0.07	5.2, 5.2, 5.25
February	67	2		0.03	
March	83	8	3	0.13	6
April	70	4	1	0.07	
May	40		2	0.05	
June	4				
	535	41	16		7

The overall catchrate was 0.11 fish per hour and the catchrate for trophy fish (over 4.5kg) was 0.013 or 1 fish every 77 hours.

The bottom line is that an angler is unlikely to ever find fishing easy on the 'Big O' but if they are prepared to put in the time and learn her secrets they can, with good reason, expect to catch that special rainbow.

2. HUNTING TONGARIRO NATIONAL PARK

Guest article by Roy Grose

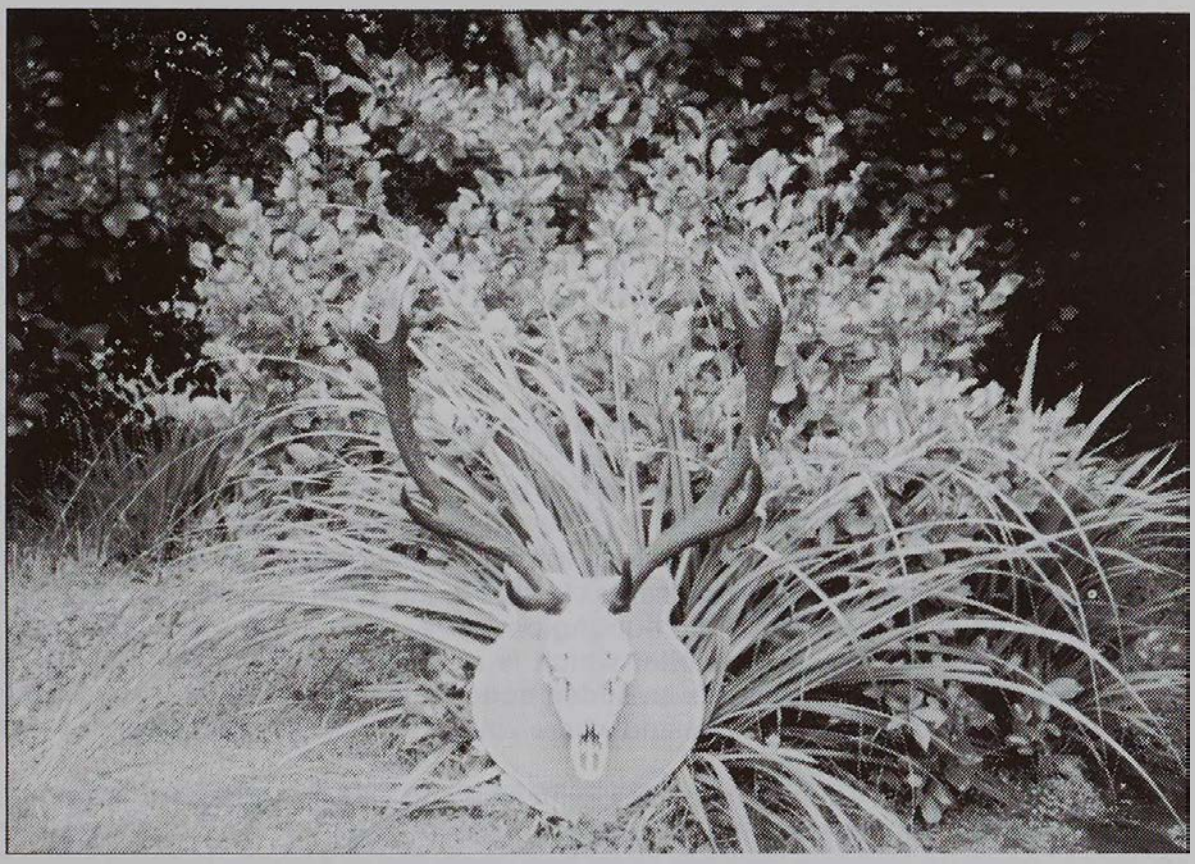
In early February this year the Tongariro/Taupo Conservancy lost Roy Grose to the new Picton Office. Roy was based at Whakapapa for a number of years and his knowledge of the park will be sorely missed. Roy harvested over 40 red deer a year from Tongariro National Park, so before he left we managed to get a few tips from him. We would like to take this opportunity to wish Roy and his family all the very best in their new life at Picton.

Tongariro National Park offers a wide variety of hunting opportunities, many of which are within easy walking distance of the surrounding main highways.

Most of my hunting in the last ten years has been confined to Whakapapa and the north-western slopes of Mt Ruapehu. It is the south-western slopes of the mountain from Rangataua to Horopito which tend to attract the majority of hunters visiting the park. However, there are equally good areas further to the north from Mt Hauhungatahi to Ketetahi, which receive very little hunting pressure. Such areas offer spectacular scenery plus a variety of deer habitat which is a challenge to hunt and supports reasonable numbers of animals. As an added bonus these areas are very accessible. There are few places left in New Zealand where you can encounter fresh deer sign five minutes from a main highway.

Red deer are the most abundant species, with sika and sika hybrids starting to filter through into the south-western and northern parts of the park. The north-western sector of Tongariro National Park has never been regarded as a trophy hunting ground, often producing small bodied animals which have thin timbered antlers. This can be attributed to a combination of factors including poorly drained infertile ash soils, very cold temperatures due to altitude and slow growth of succulent vegetation. Despite this I personally believe the animals on the western slopes of Mt Ruapehu have good trophy potential. Recently there have been at least three stags shot which are up to trophy standard. These heads have a reasonable spread and solid heavy pearled timber which is characteristically stained a rich red colour from rubbing toatoa trees.

Typical red deer summer habitat in the Hauhaungatahi wilderness area.



10 point red stag taken April 1989 just north of the Whakapapa golf course. Note royals but no bez tines.

Onset of the roar is often signalled by several hard frosts or a dusting of snow on the hill. The upper Makatote, lower Whakapapaiti, Mangahuia and the lower slopes draining Mt Hauhangatahi are all good areas in the roar. May is also a good month to hunt for stags as they range long distances in search of food to stock up before winter. During this period it is not uncommon to see two or three stags in a loose mob feeding in open bush or along the broken bush/tussock country of the Hauhangatahi wilderness area. Over the winter period animals tend to mob up, concentrating on sunny sheltered sites such as ridgelines which see the morning sun first. Driving rain or snow pushes animals into sheltered bush areas along the edges of lava flows. Spring hunting is always productive, with yearlings in particular, ranging far and wide. On occasions I have seen fresh sign on the grass verge of the highway and up as high as the limit of vegetation on Mt Tongariro and Mt Ruapehu. Over the normally settled months of January and February deer will graze well above the bushline and I occasionally encountered fresh sign where animals had been feeding on the lush alpine vegetation growing at the base of mineral springs, at very high altitude. Morning and evening shots are equally successful and a good method to shoot the wind blown areas of mountain beech, is to sit up a tree and listen or look for movement.

After reading this article I hope you will take the opportunity to actively hunt the north-western slopes of Mt Ruapehu which offer productive hunting year round in a variety of habitats. This part of the park is accessible, but is challenging for even the most experienced hunter. For those who are prepared to put in the effort, the results can be well worthwhile.

Safe hunting!

3. SPRING/SUMMER HUNTING SUMMARY

The 1 October to 31 January hunting period was the first hunting 'season' for the new Tongariro/Taupo Conservancy under the 3-4 month hunting 'season' permit administration system. Hunters in the old Taupo District were already familiar with the system and it seems to have caught on fairly quickly amongst the hunters of the previous Tongariro District.
A total of 2375 hunters obtained permits for the four month period and 562 diaries went into a prize draw on 23 February. These diaries recorded 2288 days of hunting and a total of 544 kills. A breakdown of effort and success is presented in Table 1. Two hundred and forty hunters recorded at least one kill, while 84 diaries were returned showing no hunting done.

The decrease in return rate (21%, down from 42% for the last Taupo District winter period) is a little disappointing, however the new system may be partly responsible. More and better prizes on the diaries for the 1 February to 31 May period may encourage a greater return rate for the roar.

Some hunters appear to avoid returning their diaries because they fear their 'secret hot spots' may become over-run by other hunters. This fear can be overcome by identifying the area but not the block on the diary returns, however it is in the interests of recreational hunting in general that all hunters should return their diaries accurately completed. The database that is obtained from this diary information is documented evidence that recreational hunting pressure on public lands in the central North Island is sufficient to keep animal populations in check without the need for supplementary control.

Several points of interest were noted from the diary returns this period.

The most controversial was the helicopter venison recovery operation on the Maori land on the true left bank of the Waipakihi River. Many hunters made comment. The helicopter involved, a Hughes 300, had obtained the hunting rights from the administering trust and had every right to be there. However, it is good to see hunters providing information that could be used as evidence against infringements under the Wild Animal Control Act. (i.e. times, dates, machine descriptions, etc).

Similar complaints and information regarding illegal spotlighting in the Waipakihi Valley are being followed up.

While harvest data show that deer numbers were similar this summer to last, sika seem to have been more significant in the Waipakihi Valley. Red deer however, seem to have increased a little in many of the alpine areas suggesting the roar in the middle ranges of the Kaimanawa mountains may provide some excellent red deer hunting come April.

Deer numbers are still relatively high in the upper Rangitikei headwaters. These animals do not appear to have had much pressure through the summer from recreational hunting. It is an area that offers the hunter who is prepared to walk a day or two. productive red deer hunting at higher altitudes and the chance of a world class sika trophy in the valley, away from the crowds that seem to occur at more accessible locations. Helicopter access is not permitted to the Rangitikei remote experience zone, which includes most of the Rangitikei headwaters upstream of the Mangamaire confluence.

TABLE I: Tongariro/Taupo Conservancy Hunting Summary
1 October 1989 — 31 January 1990

AREA	BLOCK	Days Hunted	Encounters				Kills				Days per Encounter	Days per Kill
			Sika	Red	Pig	Goat	Sika	Red	Pig	Goat		
Kaimanawa Recreational Hunting Area	Clements	257.5	165	12	5		29	5			2.4	7.6
	Hinemaia	32	22	1	2		5		2		1.3	4.6
	Cascade	35	32	2			8	2			1.6	3.5
	Kaipo	43	32				8				1.3	5.4
	Oamaru	70	80				19				0.9	3.7
	Tikitiki	10	14	2			4	1			0.6	2.0
	Te Iringa	33	47	2			6				0.7	4.7
	Jap Creek	7	16				6				0.4	1.2
	Upper Oamaru	7	13	2			1				0.5	-
	ALL	542.5	451	20	8		96	10	2		1.3	5.0
Kaimanawa Forest Park	Access Corridor	8	9	1			4				0.8	2.0
	Waipakihi	295.5	117	109			29	34			1.3	4.7
	Desert Road	14.5	11	3			3	1			1.0	3.6
	Access 10	29.5	9	2			3				2.7	10.0
	Umukarikari	355		46				16			0.7	2.3
	Mt Urchin	19.5	4	6				2			2.0	10.0
	Waiotaka/ Whitikau	36	8	8	14		3	1	7		1.4	3.3
	Waimarino	12	13	3	1		3	1			0.7	3.0
	Kiko Road	66	44	9			13	1			1.2	4.7
	Tauranga-Taupo	34	50				11				0.7	3.0
	Rangitikei	26	20	4			5	1			1.1	4.3
	Ngaruroro	56	42	3			8				1.2	7.0
	ALL	664.5	347	202	15		90	60	7		1.2	4.3
Tongariro National Park	Hauhangatahi	22		22				4			1.0	5.5
	Horopito/Pokaka	56.5	1	42				11			1.2	5.1
	TeTatau Pounamu	16	7	3			4				1.6	4.0
	Whakapapa	24.5		27				10			1.0	2.5
	Pihanga/Tihia	7.5		8	4			3			1.0	2.5
	ALL	192.5	11	183	6	12	4	54	2	3	0.9	3.0
Rangataua Forest	ALL	9		5				1			1.8	9.0
Tongariro Forest	ALL	195		69	7	60		36	4	46	1.4	2.3
Erua Forest	ALL	32		26	2	130		13	1	21	0.2	0.9
Rangitaiki Forest	ALL	29	17	3	2		1	1	1		1.6	-
Lakeshore Reserves	ALL	8			9						1.1	-
Unspecified Returns	Whole Conservancy	592					29	31	16			8.5
Totals	Whole Conservancy	2288					224	216	28	76		4.2

The lower altitude forests on the western side of Tongariro National Park also offer good hunting prospects for the roar. If you enjoy productive goat shooting, Erua Forest is a top block!

Fifty-one deer jaws were provided from the RHA during the permit period along with 7 gut samples. A large proportion of jaws (45%) were from animals 2 years old or less, following similar patterns to previous years. Thirty-seven jaws were also provided by hunters from Tongariro National Park.

The winners of the diary prize draw were as follows:

1st prize — Helicopter transport with Heli Sika: Alan Martin, Papakura.

2nd prize — $100 worth of Sporting Goods from "The Fly and Gun Shop": Jim Evans, Auckland.

3rd prize — Weekend accommodation for four at "Sika Lodge": Pat Nicholas, Turangi.

Thanks to all hunters who returned a diary. To those of you who didn't — your hunting resources cannot be managed effectively without accurate data. Think about it!

Have a successful and SAFE roar, and at the end of May please let us know how you got on by returning your diary.

Table II presents the results of all official departmental control operations within the conservancy between 1 October and 31 January. These continue to target goats in areas where they are a new protection problem, the results of farm escapes over the past few years.

TABLE II: Departmental Hunting — October-January 1990

Area Hunted	Hunter days	Helicopter Hrs	Kills	
			Goats	Other
Okama Stream	3	—	16	
Whakaipo Bay	6	—	8	1 deer
Aratiatia	1	—	4	
Pihanga (TNP)	1	—	6	
Pukawa	1	1 hr Hughes 300	11	
Tongariro Forest	3	—	7	
Erua Forest	pass through	—	13	
Waituhi Reserve	pass through	—	5	
Mangakowhiriwhiri	3	—	4	
Totals	17 Hunter days	1hr Hughes 300	74	1 deer

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Please contact compliance staff:—

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Brian Taylor, Phone 68607 bus, 66549 home
or Conservancy Duty Officer 68607 after hours

ANYTIME

Pureora Forest Park
1990 Hunting Competition

The Department of Conservation, with the support of local branches of the N.Z. Deerstalkers Association, offers hunters the opportunity to take part in this, the third 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 D.O.C. staff.

ENTRY:

No entry fee is required. The competition is open to all hunters holding a valid permit to hunt within Pureora Forest Park between the 20th March and the 28th April 1990.

1st Prize	-	A Winchester Model 94 30/30 rifle, valued at $895.00 supplied by Vern Wilson, Hunting and Shooting Consultants. In addition the winning head will be mounted free of charge by John Palmer of Rotorua.
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 Saturday, 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
THE DEPARTMENT OF CONSERVATION AT PUREORA FOREST,
PH. (081348) 773 OR TE KUITI (0813) 87-297.

4. SOMETHING FISHY

1989 LAKE TAUPO ANGLING SURVEY

Results from the latest Lake Taupo angling survey carried out over 6 days last December show no change in the overall catch rate. As in December 1988 the catch rate was 0.35 fish per hour or 1 fish for every 2.85 hours of fishing effort. Since the survey was begun in 1985 the catch rate has fluctuated between 0.32 fish per hour in 1985 to 0.39 fish per hour in 1987.

Many anglers had reported that the harling was better this season compared to last season, particularly in the northern bays, and this was reflected in the catch rates when broken down according to the method used. Those shallow trolling had a catch rate of 0.44 fish per hour, twice as high as that for deep trolling.

Overall 337 fish and 972 hours of effort were recorded, a drop on previous surveys. This may reflect the very windy spring which may have put people off, particularly those considering overnight trips to the Western Bays. It certainly was the impression of DOC staff that activity in the Western Bays was quieter than usual.

The fish measured averaged 502mm in length and 1.55kg, an increase in size over past seasons of approximately 10mm.

This and other information collected is used to monitor the fishery. For example a drop in catch rate might be the first indication of a reduction in the number of fish available to anglers.

HARVEST SURVEY

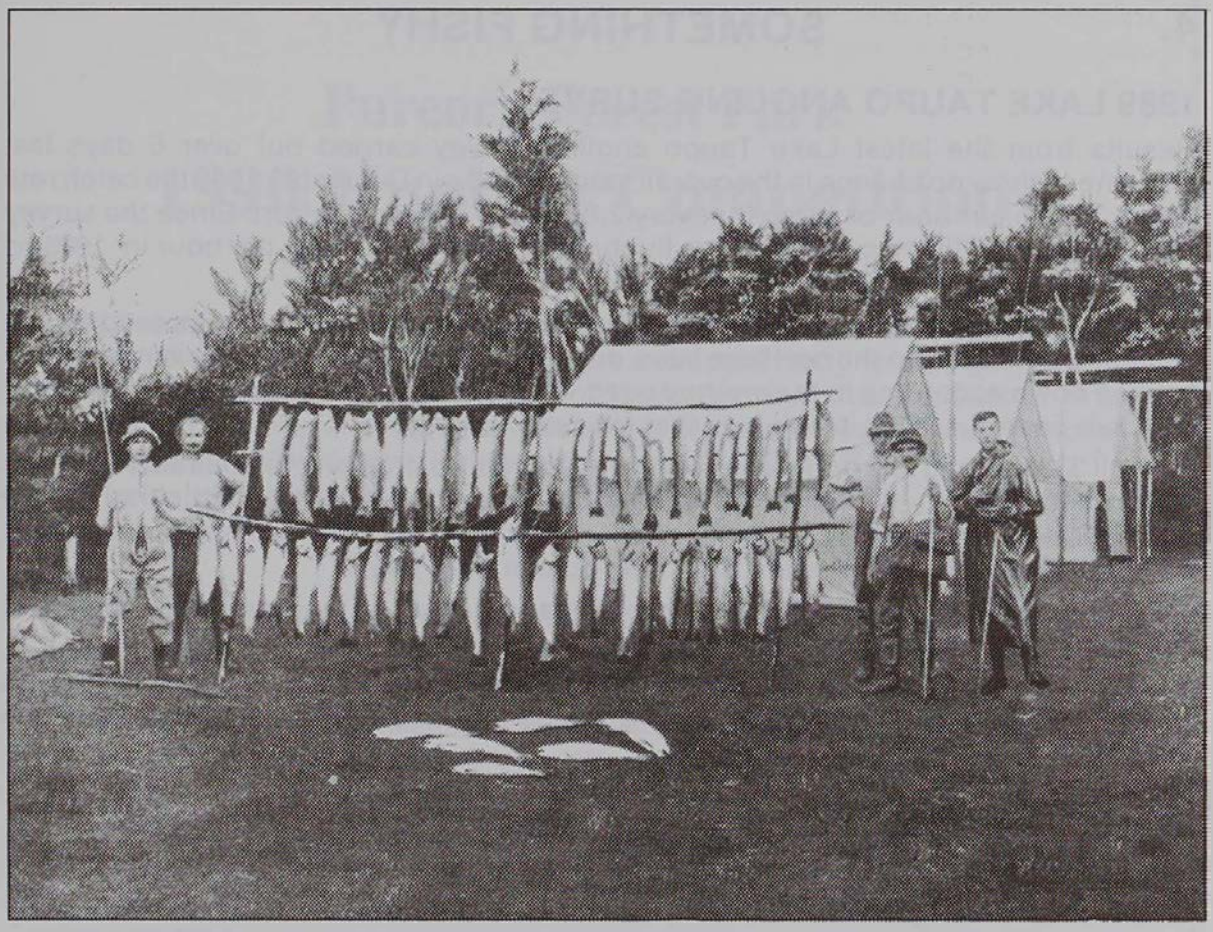
Over the coming fishing season (1990-1991) the Department of Conservation intends carrying out an intensive harvest survey to determine the total catch of trout from Lake Taupo and the Tongariro River during the course of a season. At the end of the survey fisheries managers will have a better idea of just how many fish are removed from the lake and river. Dereck Shaw's study in 1983 suggests that 70% of the total catch from the Taupo fishery is taken from these two waters.

The survey involves selecting a number of days at random throughout the season. On these days the perimeter of the lake and river is flown several times to get an 'instantaneous count' of the total number of anglers on the lake and river. On the same day a sample of anglers are interviewed on their return to the ramp or carpark to get a measure of their angling success. In simple terms, by multiplying the catch rate by the average length of the trip by the total number of anglers a total catch can be determined. In reality though the catch rate is not constant throughout the day or over the whole water and the survey design is far more complex in order to take this into account.

To test the proposed methodology, assumptions and statistical calculations, a trial survey was carried out on Lake Taupo over 10 days in February. Many visitors will have already been approached by an interviewer on their return to the ramp or wondered at the low flying Cessna circling above their boat.

The survey coincides with the end of a 3 year study by Dr Martin Cryer to determine the numbers, distribution and productivity of trout in the lake. This information and the catch results from the harvest survey will give managers a better understanding of the state of the fishery. If the numbers removed are approaching levels of production then further restrictions on angling methods, bag size and so on may need to be considered.

However, if the harvest is still well within the bounds of production, increased pressures due to the ever increasing numbers of anglers or introduction of new methods would be of much less concern.



In 1913, four Englishmen in 15 days on the Tongariro killed 194 rainbows and three browns weighing 732kg. This picture, recording just over a quarter of their total bag, comes from Sir Herbert Maxwell's Fishing at Home and Abroad.

FISH SALVAGE

On 7 December, Conservation staff undertook a fish salvage in the Kuratau Canal which drains Lake Kuratau. Normally water from the lake passes via the canal down the penstocks to drive the turbines of the Kuratau powerhouse. However, in early December the canal had to be drained to allow the penstocks to dry for repairs.

Close liaison between operators at the powerhouse and DOC staff saw 14 staff ready at the canal at 6am as the water dropped the final 30 centimetres. Fifty-nine trout up to 2kg, including two brown trout, were netted and placed in the hatchery tanker, transported and released back into Lake Kuratau.

BIG CHANGES IN THE TROUT CENTRE

The public car park and entrance to the National Trout Centre on the banks of the Tongariro River are nearing completion and a fund raising drive to finance future development is about to begin.

The estimated 50,000 visitors to the Trout Centre each year are inadequately catered for with present parking facilities. The new car park, due for completion by the end of March, will provide more room and a safer entry and exit on to State Highway 1. Visitors will enter the grounds by a footpath which crosses the Waihukahuka Stream near the display room and underwater viewing chamber.

Planned by DOC Landscape Architect Herwi Scheltus and engineered by Works Consultancy and DOC staff on the site which was partly developed for parking some

years ago by the NZ Wildlife Service the car park will feature an area for picnicking and carvings by Jono Randall. Two of the stone carvings until recently stood in front of the former Taupo DOC office in Ruapehu Street. A third, representing Tangaroa, the god of fishes, will form an archway at the entrance to the grounds with a stylised fish carved from totara which was buried in the 120AD Taupo eruption.

The official opening of the car park, tentatively set for the end of April, will herald the start of a major fund raising drive by the Trout Centre Trust Committee, headed by motelier John Milner. "We have a concept of a visitor centre along similar lines to the one at Mt Bruce Wildlife Centre. It can't miss in that location; all we need now is a million dollars," said Mr Milner.

5. DEER JAWS — WHAT DO THEY REALLY TELL US?

Many deer hunters in the central North Island spend an extra five minutes when dressing out a kill to remove the lower jaw bone. They place it in a box somewhere on the hunting block and a few months later a letter comes in the mail telling them how old their animal was and how big it was in comparison to other members of the herd. Many hundreds of jaws are collected annually from areas such as Pureora, Kaimanawa, Kaweka and Tongariro; but what is the real benefit of jaw analysis in our quest to understand deer in New Zealand forest ecosystems?

Most bone growth occurs in the first three years of an animal's life and the abundance of suitable forage during that main growth period will determine the animal's adult bone size. Animals in poor habitat will be smaller than animals in good habitat. Of course, genetic variation will mean one deer may be bigger than another, regardless of food availability, so by averaging a large sample from the herd, an average jaw length is obtained. By comparing averages between areas or over time periods, habitat quality or more importantly changes in habitat quality can be detected.

The jawbone is selected because it not only gives an index of animal size, but the animal can be aged from either tooth eruption patterns (deer younger than 30 months), or by sectioning the first permanent molar and counting the cement layers in much the same way as trees are aged from growth rings.

By comparing the age structure of the jaw sample each year the herd composition can be monitored. Herd composition can tell us how the herd is changing from year to year and, if combined with accurate harvest and hunting effort data, these changes can be related to hunting pressure.

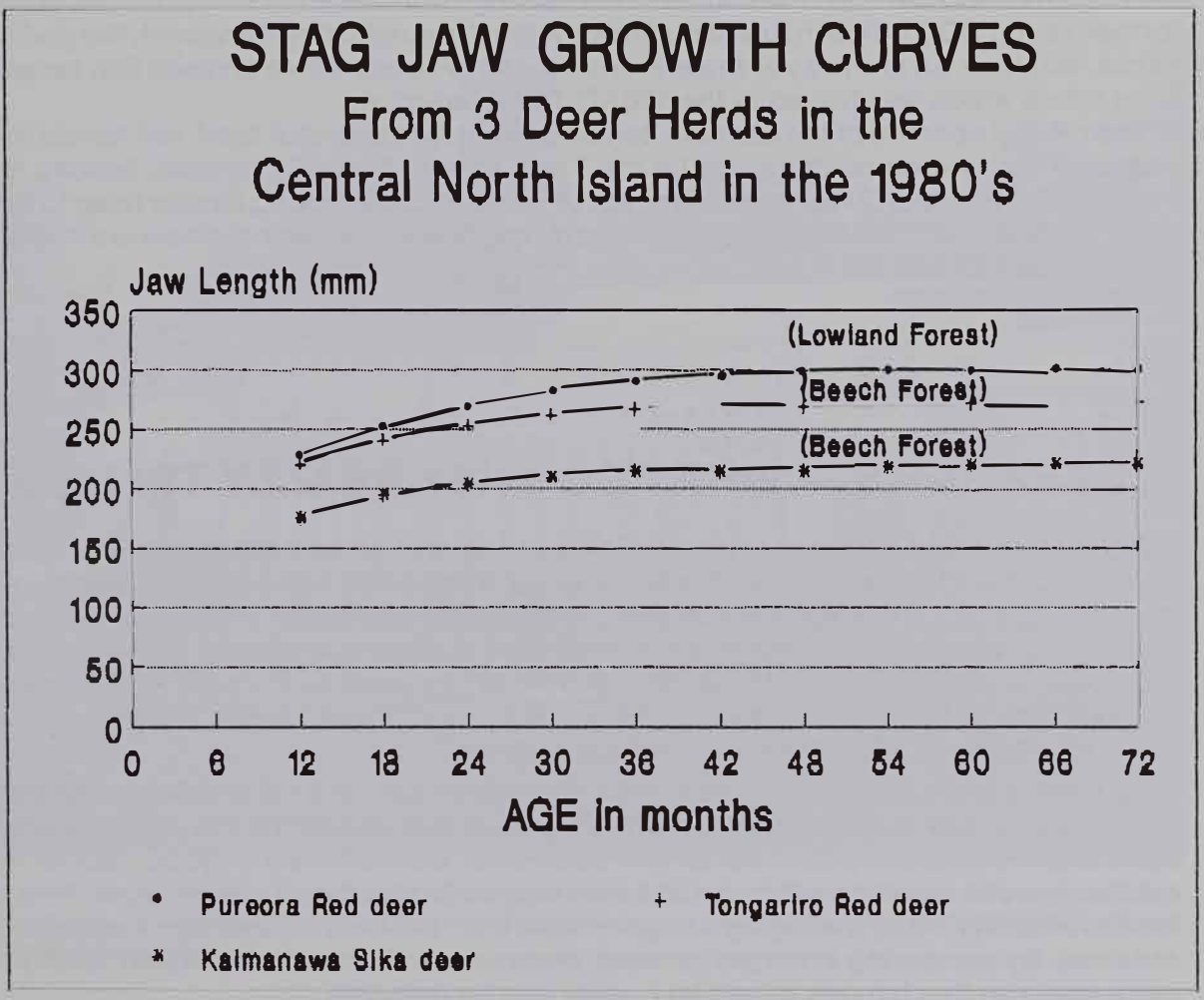
When diet and vegetation assessment data are also combined we begin to obtain a better understanding of the forest-animal-hunter relationships.

A better understanding of these relationships will mean more effective management in the future. However, without the assistance of all hunters in providing jaws, gut samples and hunting diary returns, the data is incomplete. Management is only as good as the data it has to work with.

Figure 1 shows the difference in growth rates as obtained from jaw samples, between three central North Island deer herds. All are heavily hunted and have an average age of between 3 and 4 years. The difference relates primarily to species (sika are smaller than red deer), and habitat quality (lowland forest provides a wider range of palatable species than beech forest).

Did you put in your last permit return or take the jaw from the last animal you shot? If not, ask yourself — "What am I doing to help the future of the sport of hunting?"

Figure I



6. GAMEBIRD TREND COUNTS, 1990

Each January, populations of black swan, canada goose and paradise shelduck are counted in an attempt to determine both the effects of the previous shooting season, and the success of the subsequent breeding season. By comparing data from year to year managers are able to monitor changes in the population and hence set appropriate bag limits and season lengths for the next open season. This ensures a sustainable harvest of the populations.

Paradise shelduck at this time of year are going through their "moult," a period where their feathers are shed and replaced. They are flightless for up to four weeks during this period and congregate in huge flocks for security. The same sites are used year after year and it is these recognised sites that are used for trend counting purposes.

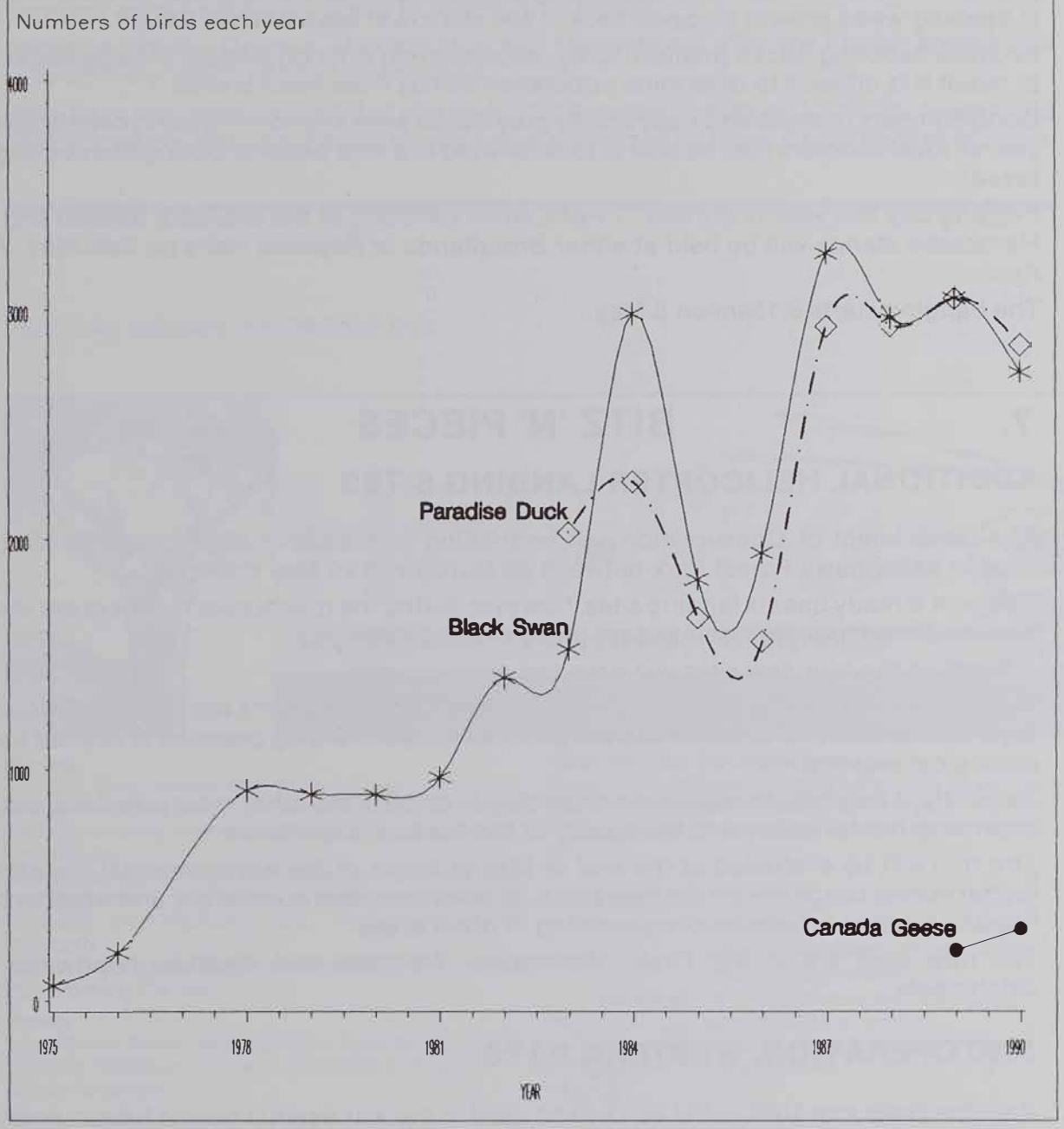
Canada geese have a similar life cycle, however they are a relatively new game bird to the Tongariro/Taupo area and their moulting sites are still being identified. Black swan, because of their size and preferred habitat are head-counted on all larger bodies of open water throughout the conservancy as a means of determining trends in their population.

Results of the 1990 counts are shown in figure II along with available data from previous years. The results show a fairly stable parrie population over the past few years after recovery from over-harvest in 1984, indicating that the present harvest is more in line with the current annual population replacement rate.

Figure II

GAMEBIRD TREND DATA

Black Swan, Paradise Shelduck, Canada Geese



Canada geese are continuing to slowly increase despite the increased harvest during the 1989 season. A special 24 hour per day open season has been permitted for part of the 1990 season in an attempt to increase the harvest to a level more in line with the annual population increase. Around 60 geese were shot during the 1989 season. Canada geese have had some effect on crops in the Taupo area in recent years and the experiences of the South Island high country would suggest careful management is essential as the population develops in this area.

Black swan numbers have increased dramatically since 1975, however the population now appears to be levelling out. The low early 1970s population was related to the 1968 Wahine storm which decimated the national swan population. Since then the fact that the population has been able to increase so significantly is an indication of the low hunter interest in the species, but also their preference for larger bodies of open water makes them difficult to hunt and this may also be a factor. Some control may be necessary before the end of the 1990s if their numbers continue to grow. The current population does not appear to be causing any problems, and in fact may be beneficial in keeping weed growth cropped back in the shallower bays of Lake Taupo.

Because dabbling ducks (mallard, grey, shoveller) do not congregate in large flocks to moult it is difficult to determine population trends from head counts.

Good numbers of these birds, especially grey ducks were seen during trend counts this year so local shooters may be able to look forward to a little better shooting this coming season.

Pegging day this year is Sunday, 1 April, while balloting of the available Rawhiti and Hardcastle stands will be held at either Broadlands or Reporoa Halls on Saturday, 7 April.

The banging starts 6.15am on 5 May.

7. BITZ 'N' PIECES

ADDITIONAL HELICOPTER LANDING SITES

The Department of Conservation will be trialling four additional helicopter landing sites in Kaimanawa Forest Park between 20 March and 20 May this year.

The park already has six landing sites, however during the roar hunter numbers are at a peak and there is a high demand on those existing sites.

It is hoped the four new sites will have two main benefits.

Firstly, they will help to spread the hunting force into catchments which have difficult legal foot access and within which a higher intensity of hunting pressure is desired for ecological reasons.

Secondly, it may help to reduce overcrowding in some of the other more popular areas, improving hunter safety and the quality of the hunters' experience.

The trial will be evaluated at the end of May in terms of the environmental impacts higher hunter usage has on the new areas, its effects on deer population, and whether it has any positive effects on overcrowding in other areas.

The new sites are in the Tiraki, Waimarino, Waiotaka and Whitikau headwater catchments.

1080 OPERATION, WESTERN BAYS

It seems likely that 1080 pellet bait will be used in the war against bovine tuberculosis in the Western Bays of Lake Taupo this winter.

Baits will be spread aerially and by hand over some 43,000 ha of forest, scrubland and farm edge in late May this year by the Waikato Regional Council under the direction of MAF Qual.

If the drop goes ahead hunters should not use dogs in the area this winter. Details will appear in local papers. Notices will be issued with all permits for the 1 June to 30 September hunting season.

TE TATAU POUNAMU SIKA

When one talks of sika, images of the Kaimanawa, Kaweka and Ahimanawa ranges spring to mind but some excellent sika hunting also occurs in Tongariro National Park.

The Te Tatau Pounamu wilderness area in the north-eastern corner of Tongariro National Park is home to some fine sika trophies.

The habitat is not unlike the Mohaka country, with islands of beech forest scattered through manuka/kanuka scrub in rolling hill country.

Streams like the Oturere, Makahikatoa and Mangatawai offer the hunter access into sika country which is often overlooked.

Sika have also been reported at Horopito this summer (1 stag and 2 hinds) suggesting that Tongariro National Park is slowly being colonised by these dainty elusive animals.

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Supporters of Recreational Hunting in the Central North Island

8. FISHING SMALL STREAMS

The following article is based on a discussion with Brian Campbell in which he details his approach to fishing Taupo's smaller streams. Brian, a retired Department of Conservation fisheries officer and former Wildlife Officer, lives in Turangi and fishes the smaller streams exclusively with a success rarely matched by any other angler in the Taupo fishery. Last year he landed eleven limit bags from these streams, the fish averaging 2kg.

Brian, it's mid-February, 28 deg.C. and the winter fishing seems a very long way off. When do you start to think about fishing the small streams again?

Brian — I have already started, walking the streams twice in the last week.

These trips in February. Just what do they involve?

Brian — I pick conditions of clear, low water flows and walk the rivers I intend to fish studying the lies.

What features are you looking for in the stream?

Brian — I am looking for lies that the fish will hold in when they are running. If there is not a major flood the lies will remain through the season. Lies occur around permanent fixtures in the river — the fish lie in front of, to the side or at the back of these. Normally the lies are associated with either tree roots, branches or stumps — the stumps left by the clearance of willows make excellent lies.

The other area I look for is where there are patches of white sand — the white sand is the result of the flow of the current. Fish lie along the edge of this white sand. When the stream is low and clear I don't expect to see fish in the lies until late April.

Do the fish lie in different areas under different flow conditions?

Brian — The fish occupy the same lies whether the river is in flood or low and clear. However, under low water conditions the fish tend to lie close in under the banks rather than out on the edge of the lie. They are also much more easily disturbed.

For an angler looking at the weather what conditions do you regard as optimum for success?

Brian — I don't even bother fishing the week before and the week after the full moon. The first runs don't eventuate until the first frost of the year has occurred — there needs to be that chill in the water. However, even warm rain a few days after the frost should see a run enter the river. I believe the fish run largely between 2am and 4am in the morning. The run is stimulated by rain during the night. If the next day is grey and

overcast, or raining, the fish will be lying in pools all the way up the river but they seem to sense if it is going to clear and under such conditions will have gone as far up the river as possible during the night.

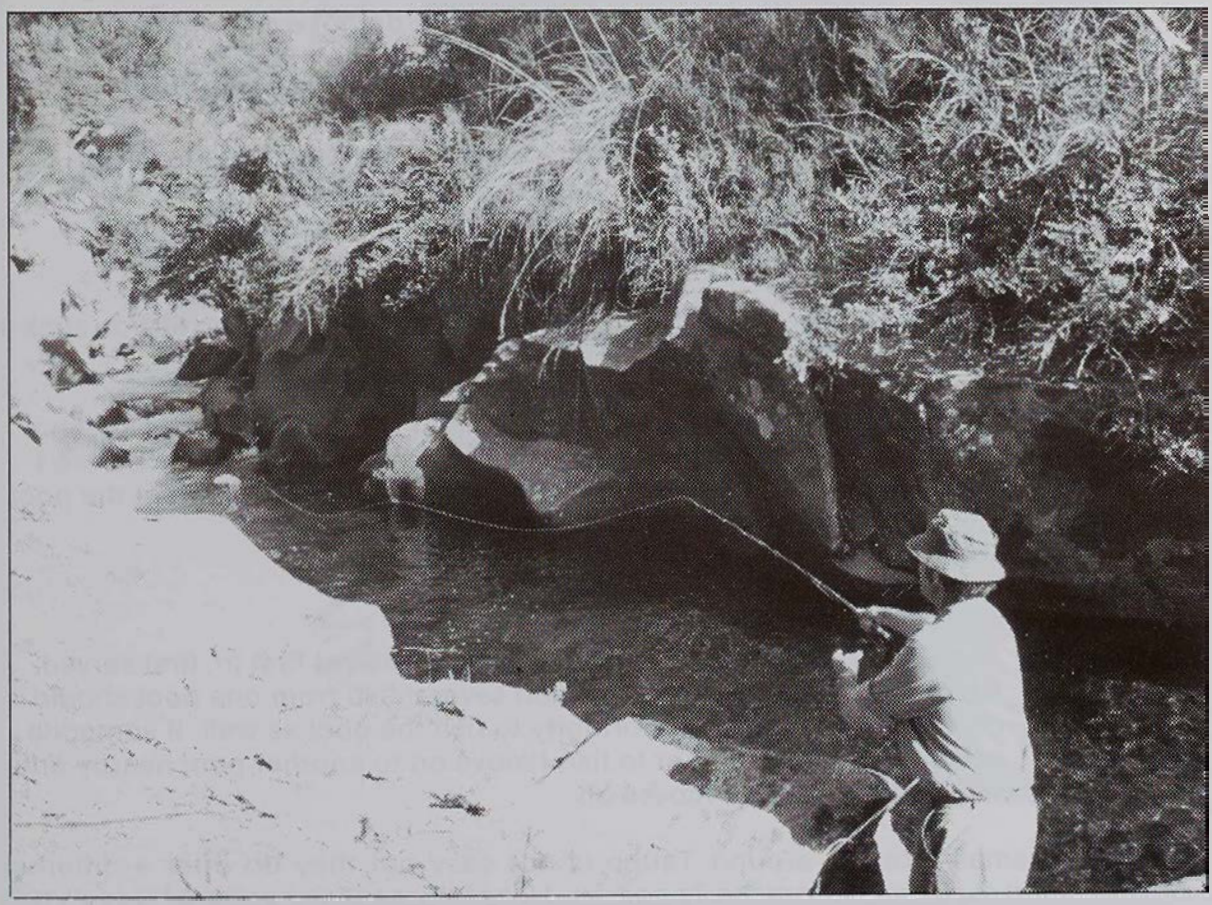
I like to see enough rain to raise the river 75 to 100mm overnight. Colouration doesn't matter. However, I fish even when the water is really grubby picking water where the pumice and silt is not washing into the lie.

When do you expect the runs to continue through to?

Brian — There is still fairly consistent fishing through to December but June to September has the best runs, both in terms of numbers of fish and the quality of the fish.

Is the time of day critical?

Brian — When nymphing, the time of the day is only critical when it is necessary to beat the crowds to get onto a favourite stretch.
Success is certainly greater when the fish haven't been spooked by a previous angler. However, if the river hasn't been fished the fishing will be as good at midday as at any other time of the day. Once the fish settle they stay in the lie for the day unless it rains.



There is no use for Tongariro techniques on streams this size

Many anglers looking at the small streams are daunted by the overhanging willows, blackberry and snags in all the pools. How do you fish these areas?

Brian — When I first explore the river and find the lies I actually visualise how I will fish them — just where I should stand and where I need to put the cast. The angler should forget Tongariro techniques. If possible stay out of the water although often it is necessary to move quietly upstream in the water to get into a casting position.

Most of my casts are roll casts often of only 3 to 4 metres. Sometimes it is just a short flick with the rod to lob the nymphs into position. You must expect to lose a few lures. Most of my casts are to the ripple at the top of a hole to give the nymphs time to sink. However, many of the fish I take are in lies in only 200 to 300mm of water. Occasionally I let the nymph drift downstream from my position, giving it a slight jig as it approaches where a fish is lying.

What weight outfit do you recommend?

Brian — I use a No 8-9 floating line with a minimum leader of 3 metres but often up to 4 metres in length. The maximum breaking strain of the tippet is 2.7kg which makes landing the fish very difficult. I lose a lot of fish but I feel I hook many more because of the lighter nylon.

In a high river I use a woollen indicator but when the river is low and clear I often use none at all. So many of the takes are minute and I notice many anglers get takes which they do not even realise.

Without giving all your secrets away, what general patterns do you use?

Brian — I stick to patterns such as the hare and copper and variations with peacock herl. I fish two nymphs, a weighted size 10 and an unweighted size 12 on the dropper. When fishing shallow water, particularly when the river is low and clear, I use lighter nymphs.

You have fished the pool for several minutes without success — how long do you stick it out?

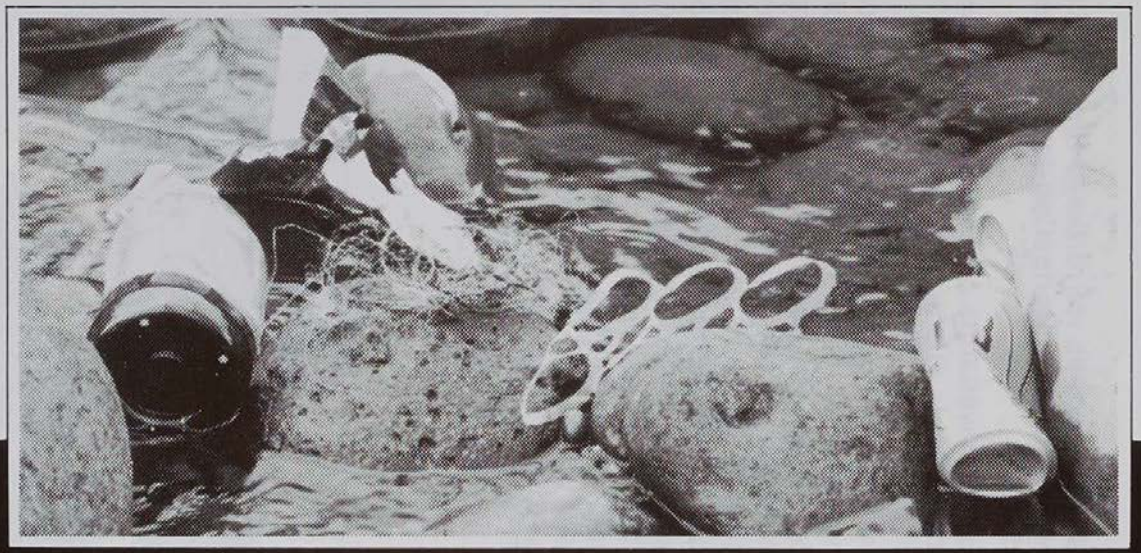
Brian — If I have made two casts without a touch I wonder if there has been a run. However, if I can see the fish I may make 50 to 60 casts before I get a strike. Surprisingly landing a fish doesn't seem to affect the pool and I often take a number of fish from one pool.

A final word on interaction with other anglers?

Brian — Anglers should take a pool each — it is a case of first in, first served. However, an angler who has taken several fish from one pool should give other anglers an opportunity to fish the pool as well. If someone is fishing the pool I want to fish I move on to another pool nearby and wait until the angler moves on.

Fishing the small streams around Taupo is not easy but they do offer a different challenge and experience from the Tongariro. Hopefully applying some of Brian's tips, you too will be able to experience success on these rivers this season.

IS THIS
ANYWAY TO TREAT A FRIEND?



Please take your tins, bottles, litter & nylon home!

PROFESSIONAL ADVERTISING AND GRAPHIC DESIGN

9. CREATING PONDS AND WETLANDS FOR SUCCESSFUL LONG TERM BENEFITS OF GAME BIRDS

Herwi Scheltus, Department of Conservation, Turangi

VALUES OF WETLANDS AND PONDS

This is the first in a series of articles designed to provide the game bird hunter or landowner with the information to create habitats which will attract and sustain game birds.

These habitats, be they wetlands or ponds, are not only an asset to the game bird hunter, but provide valuable offsite benefits, such as:

— adding to the rich diversity of our agricultural landscape;
— providing welcome visual relief from rye grass and clover pastures;
— regulating water systems by acting as a sponge or reservoir absorbing fluctuating flows, therefore offering protection against flash floods;
— filtering water — the very fabric of plant communities associated with wetlands/ponds often encourages siltation and hence their destruction;
— protecting downstream water quality by trapping nutrients through plant growth;
— providing habitat for native and exotic plants, invertebrates, fish and amphibians;
— providing habitat for over 50 species of birds which pay regular visits to them;
— water is a focal element and hence provides scope for recreation, education and aesthetic enjoyment.

A splendid wetland developed by Landcorp on their deer farm north of Taupo.

In planning your wetland or pond you should think about these offsite benefits as well as the benefits which we obtain. We need to consider the widest picture and not just on a single wetland in isolation, but how ours fits in with others in the district. Many wildlife species require more than one wetland during their life cycle. Chains of these wetlands are important especially for migrating birds. Ranges in size of wetlands are important and ponds as small as 0.5ha can be very productive if sited in the right place, suitably fenced and planted.

The planning of these wetlands/ponds is extremely important and an objective of this series of articles is to give you the information that enables the best possible habitat to be created.

The second in the series will deal with wetland/pond design, building guidelines and some dos and don'ts. The third will discuss management and maintenance aspects.

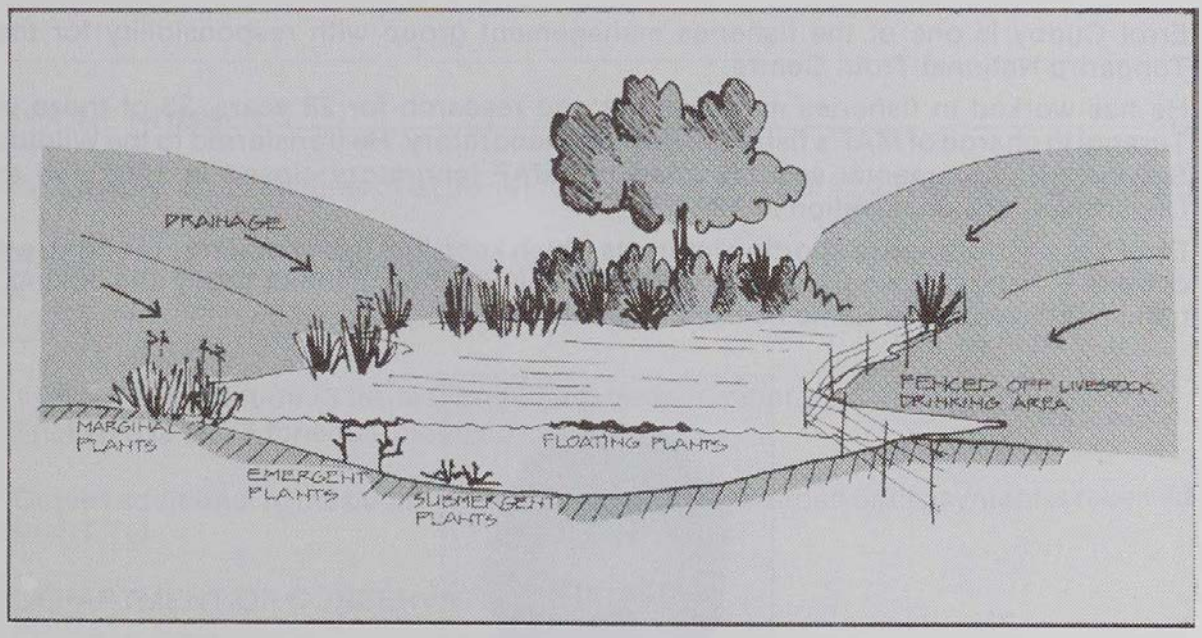
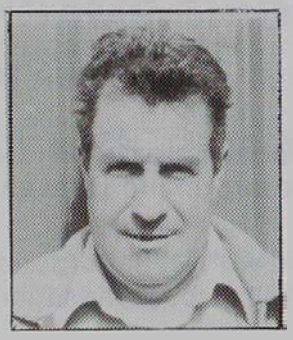


Diagram from p.2 "Farm Ponds", Countryside Conservation Handbook Leaflet 5. Cheltenham Countryside Commission, 1980.

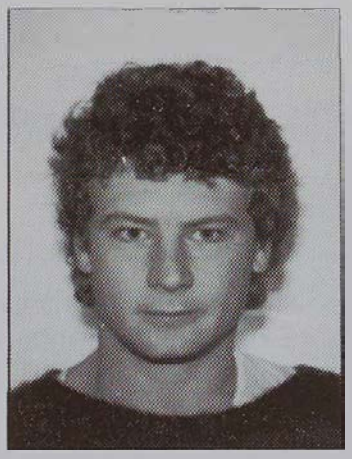
10. MANAGER PROFILE



Errol Cudby is one of the fisheries management group with responsibility for the Tongariro National Trout Centre.

He has worked in fisheries management and research for 28 years, 23 of these in Turangi in charge of MAF's fisheries research laboratory. He transferred to the Wildlife Service's Environmental section when the MAF laboratory closed in 1986 and to Department of Conservation in 1987.

Errol has a wide range of sporting interests which keep him from hanging around street corners — fishing, diving, hunting, squash, administration of junior rugby and boxing, training boxers and at home he likes to garden.



Cam Speedy is a Zoology graduate from Massey University and has responsibility for wild animal management and other ecological protection duties within the Tongariro/Taupo Conservancy. Cam came to DOC from NZ Forest Service where he had worked for four years in environmental forestry involved in a variety of animal, vegetation and fauna assessment surveys throughout the Wellington Conservancy, and as a general wage worker at Kaimanawa Forest Park.

Cam's professional interest in fish and game (including big game) stems from a strong recreational interest in these resources, and he is keen to see them managed to the best possible advantage of both the users and the welfare of the conservation estate.

Cam co-edits this magazine with Glenn Maclean.

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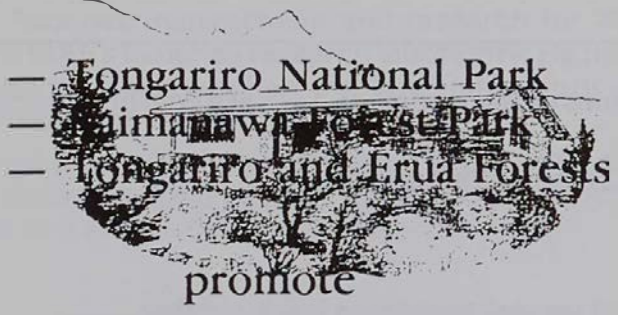
THE TONGARIRO/TAUPO CONSERVANCY



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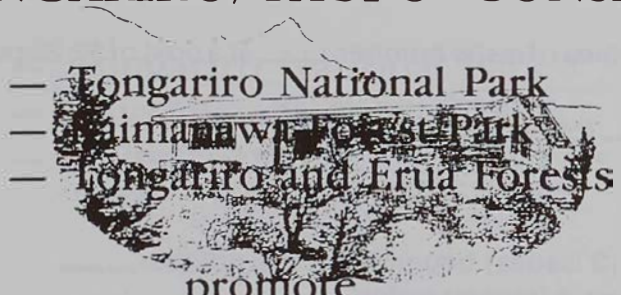

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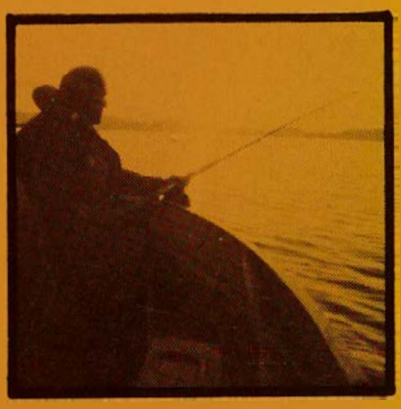

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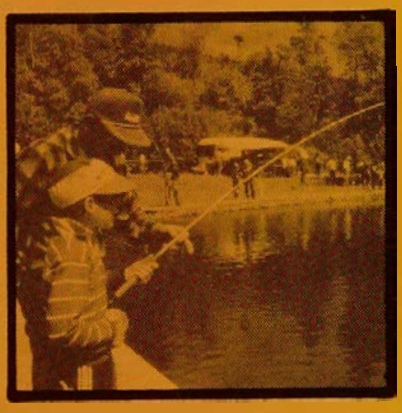

A Sporting Paradise

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