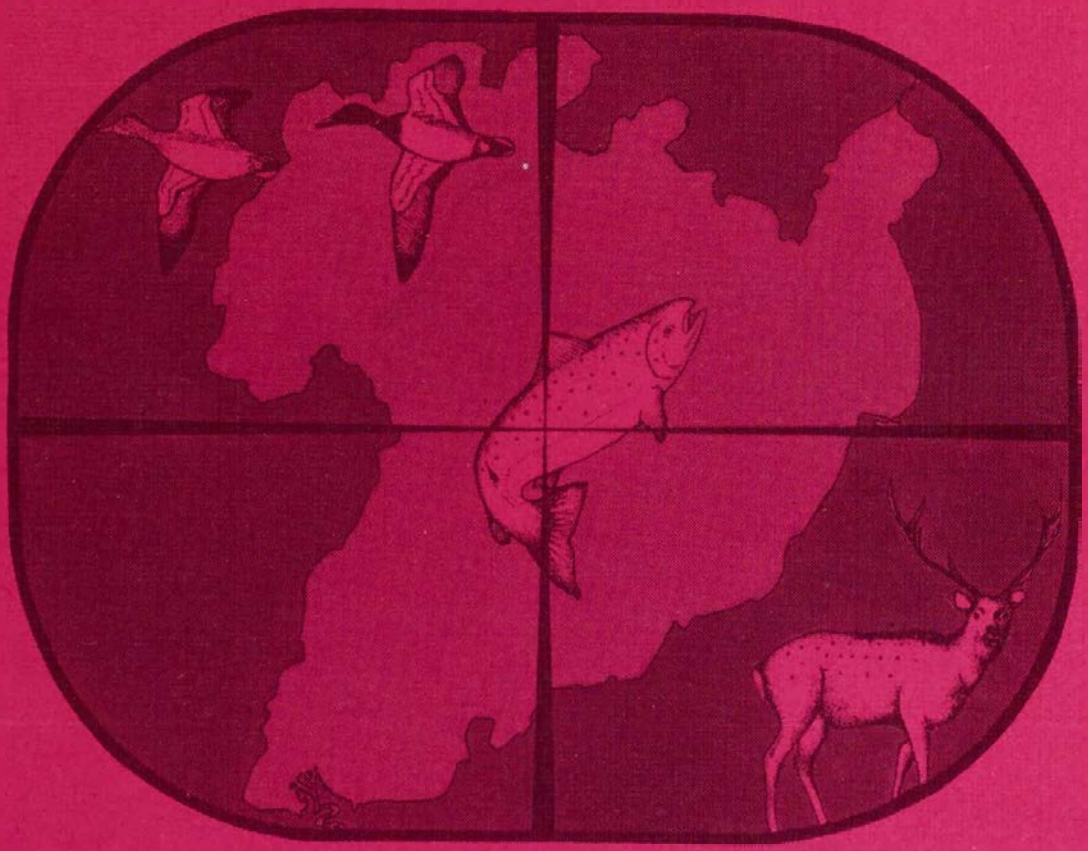
MARCH 1995
ISSUE 18

TARGET TAUPO

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



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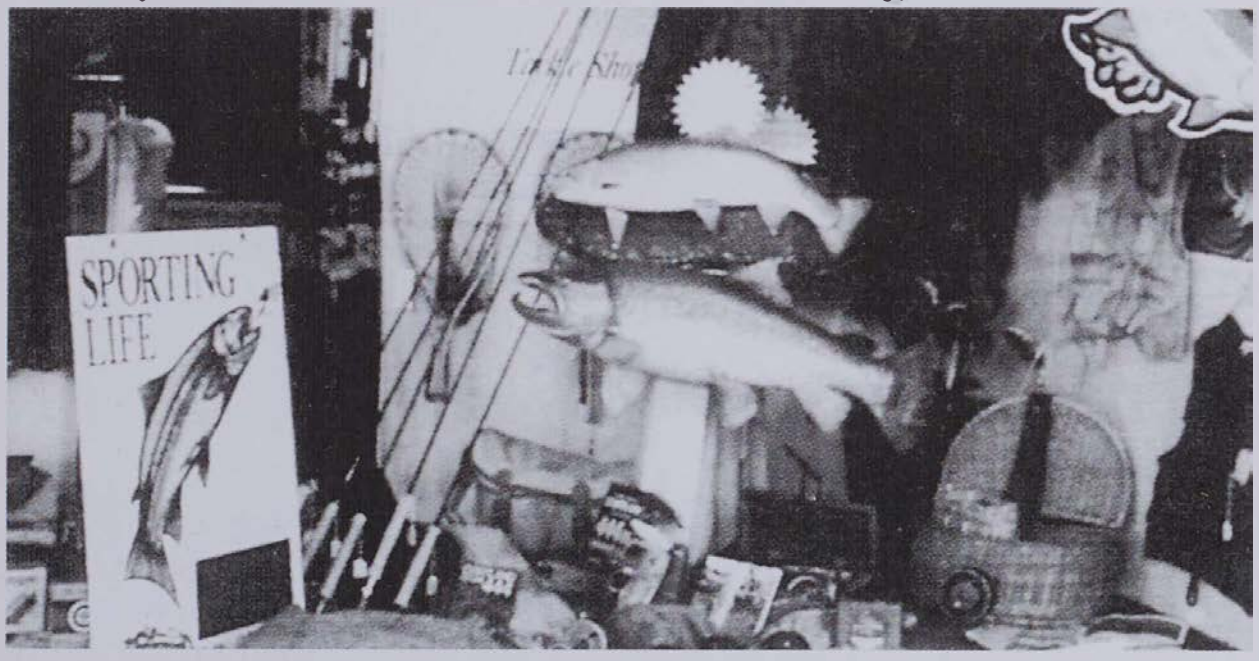

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TARGET TAUPO

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

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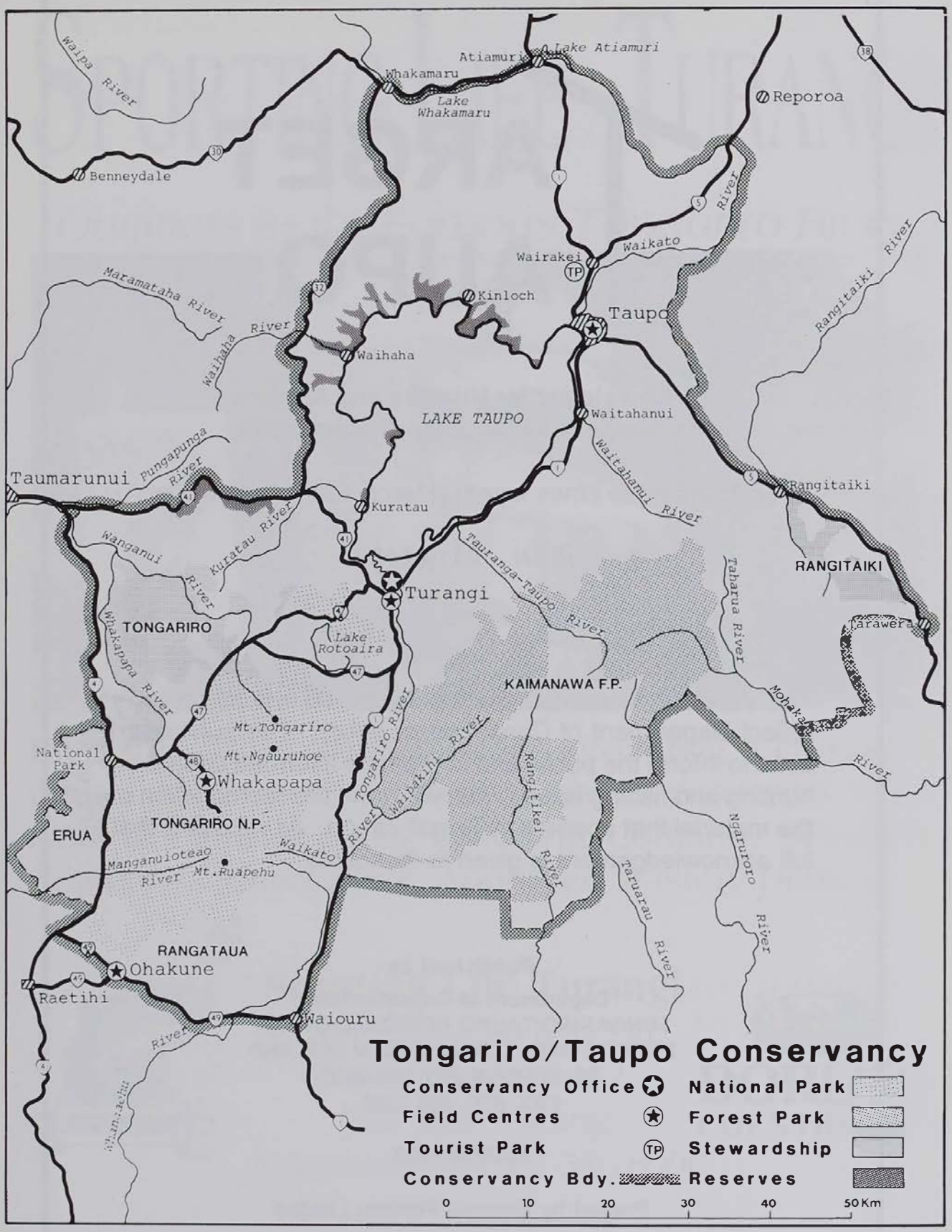
Waipa River
Atiamuri
Lake Atiamuri
Whakamaru
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Taupo
Rangitaiki River
Waihaha
LAKE TAUPO
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Taumarunui
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Lake Rotoaira
Whakapapa River
KAIMANAWA F.P.
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Tongariro River
Waipakihi River
Rangitikei River
ERUA
TONGARIRO N.P.
Waikato River
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0 10 20 30 40 50Km

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Please contact compliance staff ANYTIME

Wayne Boness, Taupo *Phone* 025 995517 (work), 377 0112 (home)
Bryan Taylor, Turangi *Phone* 376 8607 (work), 386 6549 (home)
Sid Puia, Turangi *Phone* 386 8607 (work), 386 6700 (home)
or Conservancy Duty Officer *Phone* 386 8607 after hours.

SHAGS AND THE TAUPO FISHERY

Shags are commonplace around Lake Taupo and as known fish predators their impact on the trout fishery is often questioned by anglers. In this article we review what is known about shags in this area and their interaction with the trout fishery.

Four species are native to Lake Taupo - the Black Shag (*Phalacrocorax carbo*), Little Black Shag (*P.sulcirostris*), Little Shag (*P.melanoleucos*) and less common Pied Shag (*P.varius*). These range in size from the Little Shag which is 55-65 cm in length and 0.4 to 0.8 kg in weight, to the Black Shag of 80 to 85 cm in length and 2 to 2.5 kg.

Shags roost in communal groups. Most evident on Lake Taupo are the colonies on Motutaiko Island and scattered through the Western Bays. Nests are built either in large trees such as the pohutukawa trees on Motutaiko Island or amongst cliff-face crevices and ledges. Several breeding colonies have also been located in the upper parts of the Tauranga-Taupo, Waiotaka and Tongariro rivers. The pair bond is monogamous and maintained mostly or entirely at the nest site. The male selects the site and advertises for a mate. Once accepted the female builds the nest using twigs and other material brought by the male. The same nest may be used year after year.

Usually a single brood of 2 to 4 eggs is laid, hatching approximately one month later. Young are fed by incomplete regurgitation and are fed and attended by both parents for two to three months after fledging. After breeding most river shaggeries are abandoned in favour of lakeside roosts.

During the day birds may fly several kilometres to the feeding grounds, returning to the communal roost at night. When not feeding individuals rest for up to one-and-a-half hours allowing the food to digest and may use several resting sites during the course of a day's feeding. Such sites may be the same ones used for night roosting but also partly submerged branches, boat jetties or the harbourmaster's beacon on Horomatangi Reef.

Shags feed mostly on fish, usually close to the surface. Fish are caught by surface diving or underwater pursuit swimming. In water the shag plumage is permeable and sheds air so that buoyancy is reduced. Out of water, though, the plumage repels water, trapping air and increasing insulation. This reduction in buoyancy aids swimming but limits the time which can be spent in cold

water to less than 30 minutes. Small prey are swallowed underwater but large fish are grasped from above, just behind the gills, and bought to the surface. Such a grasp often causes the hooked top bill to puncture the side of the fish, not unlike a spear wound. The Black Shag swallows large fish headfirst by tossing them into the air but in other species they may be carried to the shore to be eaten. Koura (freshwater crayfish) are shaken on the surface to snap off the claws before being swallowed. Little Black Shags will sometimes feed in dense flocks of up to 50 or more birds, working together to herd small fish.

From limited dietary studies bullies and koura are the most important prey in Lake Taupo but smelt, goldfish and trout are all taken occasionally. Smelt were found to be a significant prey item amongst Rotorua shags and anecdotal evidence suggests that, at least seasonally, smelt are taken in large numbers at Taupo also. Bull (1983) suggests only the Black Shag regularly takes trout from Lake Taupo. This is supported by Potts' 1972 study on the neighbouring Rotorua lakes in which he found no trout amongst 169 Little Shag and 79 Little Black Shag stomachs sampled throughout 1971. However one Black Shag out of seven examined contained one 1 kg rainbow trout. Prior to the introduction of trout and smelt it is also likely that the then extensive koaro (*Galaxias brevipinnis*) populations were an important food source. Dietary studies elsewhere suggest they will take a wide variety of freshwater prey including eels, various whitebait species, trout, perch, carp, crustacea (crabs) and invertebrates. Despite such a diverse diet studies indicate that when a number of fish species are available shags often adopt preferential feeding, selecting only one or two species. Which species are chosen seems to vary from locality to locality.

It is difficult to estimate just how many shags occur in the Taupo basin as a complete census has never been undertaken, but it is likely to be in the order of several thousand. Casual observation suggests that numbers are probably similar to those in the past. For example W C Buller in 1888 comments that Captain Mair, who accompanied a hunting party to the "Tauranga River at Lake Taupo" (= Tauranga-Taupo River?), saw 400 Little Shags collected in a single day. P J Burstall recalls that in the 1950s the Tauranga-Taupo shaggery used to contain from 750 to 1000 birds.

The impact of this number of birds on the trout population is unlikely to be significant. There is no evidence that either the Little Shag or Little Black Shag, which comprise the bulk of the population, take trout regularly from Lake Taupo. These birds are not very large and most trout in the lake are at least 150 mm long. It is probably easier to feed on the more abundant smaller fish such as bullies. However, shoals of much smaller trout do occasionally occur around the lake margin and these are likely to be more susceptible to shag predation. The Large Black Shag does take trout occasionally though

there are probably only three or four hundred birds in the whole fishery (Cam Speedy personal comment).

The greatest impact may occur in the streams rather than the lake. From a cliff top, the author has witnessed a Large Black Shag swim 100 metres underwater downstream in the Waimarino River. As it encountered each group of spawning fish they flared apart and moved slightly upstream while the shag passed on downstream. Unsuccessful, the shag surfaced and flew back up to the start of the beat to repeat it. No doubt shags aren't always so unsuccessful. Usually, along the spawning tributaries early in the winter while the rivers are still very low, a handful of dead fish bearing scars of shag damage will be found. Later in winter under high flows very few shag kills are found, suggesting the adult trout are perhaps better able to avoid the shags under these conditions. There are resident shags on many stretches of all the Taupo tributaries and these, at least in part, are likely to feed on juvenile trout present over the summer. It is just another gauntlet juvenile trout must run, as they have had to since their introduction into the fishery 100 years ago.

Shags (cormorants) are found worldwide and are significant predators on trout in their native waters. The trout life history of producing thousands of eggs per adult female has evolved, in part to counter the impacts of such predation. It's all part of the bigger picture and calls to control what is a native species solely to minimise this impact could not be justified.

There is an overlap between the diet of shags and trout and potentially the opportunity for competition. Shags, however, are shallow water feeders whereas the bulk of trout feeding occurs at much greater depth. Smelt are the predominant prey of trout and evidence indicates that the huge smelt populations are limited in size by the availability of food rather than any effects of predation.

From 1915 to 1959 shag destruction programmes were undertaken in the Rotorua/Taupo region largely to try and reduce the incidence of shagworm. This is a nematode (*Eustronglides sp.*) which develops within the stomach of the shag, releasing fertile ova which are passed out in the shag's excreta. If dropped into the water the ova develop into larvae which are eaten by small fish such as bullies. These in turn are eaten by shags and the cycle starts again. Occasionally, however, the bullies are eaten instead by trout, which in turn become infected. The worm causes a large watery filled cyst to develop within the body wall of the trout which, when approximately the size of a golf ball, ruptures through the skin ultimately causing the death of the trout. Such infected fish are reported on average to us about every two months, but in other areas such as the Waikato River and in Lake Taupo in the past the incidence is or was much higher.

In 1910-11, Internal Affairs records show, the average weight of rainbow trout caught by anglers was 8.75 lb. However, in 1913 the quality of the fishery began to deteriorate until in 1917-18 the average weight was only 3.25 lb. According to reports, increasing infestations of "shagworm" accompanied this decline. It was assumed that "shagworm" was the cause of this decline in the quality of the trout and that if the incidence of shagworm were reduced the fishery would return to its original state. To that end it was thought the destruction of shags would break the 'shagworm' cycle.

It is now known that the deterioration of the fishery was caused by an inadequate food supply. High shagworm infestations were a symptom, rather than the cause, of the deterioration.

The decline in the fishery was finally halted with the introduction of smelt in the 1930s which formed huge populations and now form the dominant component of the trout diet. Smelt appear a lot less susceptible to shagworm, perhaps because they spend so much of their life in deep water away from the shallows most frequented by the shags. Whatever the reason, because trout feed so heavily on smelt (up to 90% of the diet of immature trout) the incidence of infection by shagworm is now relatively low and certainly does not justify any control of the shag populations.

In summary, shags are a native species to Lake Taupo. They have a similar role in the dynamics of the Taupo fishery to that of related cormorant species in the fisheries, from which Taupo stocks are derived. Their predominant prey are small fish and koura, not trout, which they share with the trout population. These prey species exist in huge numbers and are food limited so that competition between trout and shags is unlikely to be significant. The diet of shags varies between localities and while trout may be a much more important part of the diet elsewhere, that is not the case in Taupo. Anglers need not fear the impact of shags on the Taupo fishery.

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SPRING/SUMMER HUNTING SUMMARY

A very wet spring followed by a very dry December finally turned into a good summer in most of the central North Island high country, with warm humid weather, plenty of sun and enough rain to keep the bush surprisingly quiet for this time of year. With plenty of growth in the forest the deer have been able to put on plenty of condition and the stags will hopefully have grown some quality antler.

A significant increase in permit issues saw 2873 hunters obtain hunting permits for the 1 October to 31 January permit period in the Tongariro/ Taupo Conservancy. This is up 21% on the average for this period over the past four years. A total of 71 hunters also visited the Rangitikei using helicopter access issued under special authority (see article, page 12). The increase in hunting interest appears to reflect, in part, hunters displaced from Pureora Forest Park following widespread aerial 1080 poison carrot drops for *Bovine Tb* control there last winter. These drops have reduced deer populations significantly in some areas. Summer hunting permit statistics for Pureora were not available at the time of preparing this edition of Target Taupo, however Pureora staff do perceive less hunting pressure this summer.

A total of just under 500 hunters returned hunting diaries in time to be summarised in this issue of Target Taupo. This is disappointing as it represents only 17% of permits issued, but we anticipate that this number will increase as more hunters begin requesting permits for the roar.

The data received to date is summarised in table 1, overleaf. As is so often the case, 37% of the hunters were responsible for 100% of the harvest. Most of the more experienced hunters who hunt regularly and who know their hunting areas well appear to have had better than average seasons. Top gun took 17 red deer and 2 sika deer in 15 days hunting (jaws provided from all animals - thanks Kevin!).

Despite the low return rate the data corrected per 1000 days hunting suggests hunting was a little more productive this summer than last year. The decline evident in the sika harvest over the past few years, following the harsh winters in the early 1990s which had a major impact on many deer populations in the region, appears to have flattened out. Production from this year should see the slight upward trend continue given the good growing season. The conservancy's red deer herd is more widespread than the sika herd, occupying

more lower altitude country which is less susceptible to harsh climatic conditions, and as a result the trend is less obvious for this species. The slight improvement in the red deer harvest rate more than likely reflects improving conditions in the Kaimanawa high country.

Areas that produced well over the growing season included the Whakapapa catchments within Tongariro National Park where red deer numbers are certainly on the increase, Rangataua Forest and the upper Hinemaiaia headwaters within the RHA. The upper Waipakihi Valley produced well in December but the lower valley faded quickly this spring following early success. Boyd Lodge continues to provide lean opportunity except for those hunters using packs of dogs and semi-automatic weapons, but for hunters who are prepared to use the Boyd for access into the headwaters of the Oamaru River there is still some very good hunting in this part of the RHA. The pockets of warm, north-facing habitat among the high altitude ridge systems are currently holding lots of game.

Area	Permit Period Oct - Jan.	Days Hunted	Encounters				Kills			
			Sika	Red	Pig	Goat	Sika	Red	Pig	Goat
Kaimanawa Recreational Hunting Area	94/95	335.5	220	13	-	-	47	7	-	-
	93/94	545.5	427	15	1	-	94	2	1	-
Kaimanawa Forest Park (excluding RHA)	94/95	641.5	247	219	11	-	67	78	-	-
	93/94	1042.0	434	244	2	-	109	103	1	-
Tongariro National Park	94/95	166.5	18	119	-	-	2	86	-	-
	93/94	310.5	29	225	3	-	3	122	-	-
Tongariro Forest	94/95	99.5	1	47	1	38	1	19	-	8
	93/94	191.0	1	146	2	91	-	58	2	31
Erua Forest	94/95	27.5	-	20	-	24	-	12	-	14
	93/94	109.0	-	42	-	36	-	26	-	15
Rangitaiki Forest	94/95	49.5	17	4	-	-	7	-	-	-
	93/94	29.0	8	9	-	-	-	2	-	-
Lakeshore Reserves	94/95	No data provided								
Unspecified Returns (whole conservancy)	94/95	94	-	-	-	-	7	8	-	4
Totals (whole conservancy)	94/95	1428	-	-	-	-	134	209	-	27
	93/94	2459					129	349	12	90
Totals corrected per 1000 days hunting for whole conservancy, October to January, 1990-1995	94/95	1000	-	-	-	-	94	147	-	19
	93/94	1000					89	142	5	36
	92/93	1000					127	161	5	16
	91/92	1000					133	134	10	27
	90/91	1000					102	158	8	41

TABLE 1 *Tongariro/Taupo Conservancy Recreational Hunting Summary for the period 1 October 1994 to 31 January 1995.*

Winners of the hunting diary prize draw for this permit period were:

AIR TRANSPORT WITH LAKELAND HELICOPTERS: *K. Deadman, Ohakune*

AIR TRANSPORT WITH AIR CHARTER TAUPO: *P Nicholson, Taumarunui*

AMMO FROM NZ AMMUNITION CO LTD: *Scott Tindale, Silverdale, Auckland*

HUNTING GEAR FROM "BACK RIDGE APPAREL": *S Hayton, Hamilton*

SPORTS GOODS FROM THE FLY AND GUN (1993): *Michael Perkins, Tauranga*

HUNTING GEAR FROM "STONEY CREEK": *P Williams, Thames.*

Ten hunters also receive a complimentary copy of this issue of Target Taupo.

We trust your roar this year is a good one and look forward to receiving your hunting diaries and trophies later in the year. Please remember your firearm safety this autumn. Not only are there likely to be other hunters in your chosen hunting area, but for the sake of your mates and their families - *Identify your Target*!! If you can't identify an appropriate kill zone on your target, don't take the shot until you can. As a firearm user in a public place, it is your responsibility to ensure you use that weapon in a safe manner. There have been two serious hunting accidents in the central North Island in the past few months. Let's not have any more!

HELICOPTER ACCESS TO RANGITIKEI : SPRING 1994

Between 29 October and 18 December 1994 a total of 18 hunting parties were granted special authority to fly into the Rangitikei Remote Experience Zone (REZ) of Kaimanawa Forest Park to help reduce the impacts of deer on the catchment's beech forest. Helicopter access is restricted in this part of the park in recognition of the area's wilderness character. However, low hunting pressure over a sustained period in the late 1980s resulted in a situation where deer impact on the understoreys of the catchment's beech forest had started to cause concern for managers. The eaten-out forests combined with severe climatic conditions during the winter of 1991 resulted in a major deer die-off in the catchment.

Managers saw a need to increase the deer harvest to help capitalise on the natural decline in animal density and opened up four landing sites within the REZ for recreational hunters in the autumn of 1992 to assist this process. This access period provided opportunity for 103 hunters to visit the catchment. However, problems were experienced with overcrowding, high human impact at landing sites, abuse of the fishery and poor data provision. Only 44 of the 103 hunters provided hunting data, which showed a harvest heavily dominated by stags (53 of 72) due to the time of year (the rut). In terms of knocking down the breeding potential of the herds still further, this was not a successful exercise as 74% of the harvest were males. A spring trial was approved in 1993 and this provided 71 hunters with an opportunity to visit the catchment. Tight controls were placed on those hunters and the resultant harvest was made up of 70% (28 of 40) breeding-aged hinds - a far more useful result in terms of herd control.

Details of hunting effort and success were received from 16 of the 18 parties who took the opportunity to utilise access in the spring of 1994 following follow-up letters and phone calls to party leaders. A summary of the statistics obtained from the hunters involved appears in table 2. The results of the 1993 access period are also included where relevant.

Overall, harvest rates are comparable to the majority of the conservancy at an average of 0.25 kills/day hunted. The average for the whole conservancy for the spring of 1994 was 0.24 kills/day hunted. In the autumn of 1991 the kill figure for the Rangitikei REZ was as high as 0.38 kills/day hunted. This

decline in kill rate combined with observations by hunters that most deer were in good condition this spring and, further, that all breeding aged hinds were reported to be carrying fawns, suggests the herds are finding more and/or better nutrition within the habitats of the REZ. During previous periods of helicopter access hunters have commented on the poor condition of many animals. Whether the reduction in numbers has yet been sufficient to allow a general improvement in forest health will be assessed in November 1995 when remeasurement of habitat parameters (permanent 20 m x 20 m forest plots and exclosure plots) is undertaken.

In addition, a total of 58 jaw bones has now been collected from the herds in the Rangitikei REZ as part of the monitoring programme. It is too early to detect an increase in deer size as a result of better nutrition, however, bigger yearlings and a general increase in jaw length in young mature animals are expected in the next two years.

Block	No.of parties provided data	No.of hunters	Days hunted	Deer Seen		Deer Harvested				Total	Kill Rate (kills/ day)	Jaws Supp-lied
				Red	Sika	Red Stag	Red Hind	Sika Stag	Sika Hind			
Ecology Exclosure	3 (6)	8 (24)	20 (102)	20 (7)	3 (31)	- (-)	4 (2)	- (2)	- (2)	4 (6)	0.20 (0.06)	3 (3)
Ecology Junction	4 (6)	12 (24)	49 (84)	19 (28)	5 (13)	3 (2)	5 (5)	- (1)	1 (2)	9 (10)	0.18 0.12	4 (0)
Trick Creek Junction	5 (6)	18 (23)	51 (87)	19 (34)	13 (27)	2 (3)	4 (13)	3 (4)	3 (4)	12 (24)	0.24 0.28	8 (8)
Otamateanui Tops	4	13	37	28	-	3	11	-	-	14	0.38	10
TOTALS	16	51	157	86	21	8	24	3	4	39	0.25	25

TABLE 2 *Summary of recreational hunting statistics, Rangitikei Remote Experience Zone (REZ) - helicopter access blocks: spring 1994 (1993)*

Interestingly the proportion of sika deer to red deer seen and harvested has declined considerably since 1993. The encounter ratio of 58 red deer : 21 sika deer during the spring of 1994 is very different to the encounter ratio of 69 red deer : 71 sika deer during the spring of 1993 (figures for Ecology Stream, Ecology junction and Trick Creek junction used only).

Sika deer, because they are smaller and perhaps for other physiological reasons, appear to struggle in very cold conditions. The high number of skeletons in the catchment (one party commented on finding "a couple of

dozen full skeletons"), combined with the observation of a greater proportion of red deer seen in the catchment this spring, could indicate that winter die-off has occurred more amongst sika deer. This will be confirmed or not by collecting jaws off the skeletons found in the catchment during habitat monitoring in November 1995.

A number of parties who flew to the REZ this spring again took the opportunity to utilise the Rangitikei trout fishery. This is one of New Zealand's premier wilderness trophy fisheries. Monitoring through angler returns and tagging experiments has been undertaken by the Wellington Fish and Game Council, the agency responsible for managing this resource, for the last three years in response to concern that improved access to the headwaters may have a negative impact on the fishery. It is pleasing to note that all parties who provided fishing data this spring appeared to practise a catch and release ethic in the REZ. General feedback indicated that the numbers of fish in the REZ were as good as ever, but that size was down a little. A number of tags were recovered and data forwarded to the fish and game council for analysis.

In terms of human impact in the catchment, the provision of toilet facilities at landing sites has had a positive effect, but many parties still have a lot to learn about minimising their impact in other respects. While rubbish was less of a problem, campsite excavation, fireplace construction and firewood consumption are issues which still need further advocacy work as the photos opposite show.

Overall, the exercise was considered successful. While the harvest was not large, the target sector of the herd (breeding hinds) provided the bulk of the harvest, and further valuable experience in managing visitor impacts in remote areas was obtained.

Some parties will be disappointed at their lack of success - five parties shot no deer at all. However, weather conditions and perhaps hunting experience can explain some of the variation in success. One group of hunters harvested seven deer in just 2 days immediately after two large parties had rather unsuccessful trips (three deer between 11 hunters in 9 days), in the same area. The November floods also caused problems in that one party spent four unscheduled days stuck in the hills while two other parties could not get in.

Thankyou to all those hunters who provided valuable feedback.

Despite a specific request in the permit package to use gas cookers and to keep firewood consumption to a minimum, some parties cut large quantities of live vegetation.

Campsite excavation, vegetation clearance and fireplace construction continue to have a major impact during periods of helicopter access to the Rangitikei REZ for hunters. At the Trick Creek site there were three separate areas used by different parties. There is no need for such widespread impact at landing sites. ■

Department of Conservation
Te Papa Atawhai

1995 Sika Trophy Competition

Over $7,000 Worth of Prizes

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Measuring-up Day

Monday 5 June 1995 at the *Spa Hotel, Taupo* (off Spa Road), beginning *11:00 am*.
Prize-giving begins at 3:00 pm. Bring along the family and enjoy a day of hunting yarns, top sika trophies and quality refreshments in pleasant surroundings.

Conditions of Entry

(1) Animals must be feral. (2) Animals must be taken from the central North Island (any land) between 1 March and 31 May 1994. (3) All heads must be registered fresh at an official registration point within seven days of being taken. (4) The lower jaw must be produced together with the boiled out head before 2:00 pm on the measure-up day. (5) Rotten or late heads will not be accepted. (6) In the event of either a dispute over authenticity of a head or a hybrid head being entered, a panel of judges will be consulted and their decision will be final. (7) To win the rifle, you *must* be present at the prize-giving.

We hope you will show your continuing support in helping us understand the central North Island sika resource by entering your sika trophies in the competition!!

DEER HUNTING IN SWITZERLAND

Switzerland is about seven times smaller in size than New Zealand but with a population twice as big. This means that the density of people is about 14 times higher. Imagine New Zealand with 50 million people! What would deer hunting be like in such a crowd? A staff member's father who lives in Switzerland is here on a visit and told us about deer hunting rules there.

Firstly, Switzerland is organised by counties and each of the 26 counties has its own rules. As an illustration we will use Grisons County, the major deer hunting county in the country. In order to get a hunting licence there you must be over 20 years of age and pass a substantial hunting examination. The examination includes theoretical aspects like the biology of game species, arms safety and hunting rules. The second part of the examination deals with practical aspects including shooting tests, animal dressing and winter feeding of the animals. To pass the complete exam takes about two years and costs around $150.00.

When you have successfully passed the exam you must then buy a licence at a cost ranging from $1,000 to $2,000 depending on whether you are a local resident or not. This licence permits you to hunt annually for three weeks between the 9th and the 21st of September (just before the roar). During this period you are allowed to shoot as many red deer as you like, though there are regulations about which animals you can take. You may *not* shoot spikers carrying antlers longer than the ears, stags carrying royal crowns, hinds in milk or fawn. Every animal killed must be tagged and inspected by officials. The reason for these rules is that the deer are managed so as to protect the best animals in order to maintain the intrinsic qualities of the deer herd.

The minimal bullet calibre is 10.3 mm and magazines are forbidden. The choice of this calibre is set to avoid long shots and therefore make hunting more challenging. Having to approach close to the deer ensures the hunter can be sure of the configuration of the antlers or the condition of the hinds.

Hunting is forbidden in game reserves. During the three weeks of the hunting season in Grisons County the legal deer harvest must be at least 6000 within an area of about 2000 square kilometres. If this quota is not reached in the three weeks then a supplementary hunting period is allowed. This intensive harvest is possible because the deer habitat is very good, supporting high

deer densities. There are a lot of hunters (about 6000) and access is relatively easy. In Switzerland, private landowners do not have the right to stop hunters walking across their land to access to their favourite hunting spots. In fact, it is legal to hunt in private forests as long as they are not within a game reserve.

In comparison with Switzerland, hunting rules in New Zealand are like the geographical position of both countries - diametrically opposed! ■

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SOMETHING FISHY

SUMMER FISHING UPDATE

The trolling on Lake Taupo this spring and summer was some of the best for many years though the harling was more patchy. Since late winter anglers were reporting excellent results, catches of 10 or 12 prime trout in a session commonplace. In recent years for many anglers to hook a fish in the first five minutes was often an omen that not another fish would be hooked in the trip. However, this season it was just an indication of the sort of success which would continue over the rest of the trip. This success was in keeping with our November acoustic survey results which indicated two to three times as many fish present in the lake compared with the late 1980s. However, there were still anglers who missed out in the period up to and just after Christmas, highlighting that it takes more than a lot of fish to ensure angling success.

A feature of the harling was that many of the fish caught in the shallows were well recovered spawners, washed into the lake several months earlier than in

recent years by winter and spring floods. However, the maiden fish seemed reluctant to move far up the drop-off, instead shadowing huge smelt schools lying off the shelf. Those harlers who targeted the drop-off and anglers using lead lines had great fun but harling runs across the more shallow areas often were less successful than in recent years.

Another unusual twist apparent in places like Five Mile Bay was that the harling at first light was uncharacteristically slow but would consistently come on around six o'clock for an hour or so.

Table 3 summarises the results of anglers stopped at different locations around the lake during December and January. The exceptionally good angling is characterised by the very high average catch rates using leadlines, wirelines and downriggers.

	Harling		Leadline		Wireline		Downriggers	
	December	January	December	January	December	January	December	January
Hours	250.05	286.65	402.25	335.15	103.4	62.75	76	25.5
Kept	59	42	124	60	32	16	21	9
Returned (legal size)	31	24	33	9	11	8	9	1
CPUE (fish caught per hr)	0.36	0.23	0.39	0.21	0.42	0.38	0.39	0.39
fish caught = fish kept + legal size returned								

TABLE 3

Leadlines, wirelines and downriggers all showed similar success in December. At this time many fish were quite shallow and available to all three methods which, not surprisingly, proved equally effective. In January, warmer surface temperatures pushed many trout deeper, out of reach of leadlines and harling, though wirelines and downriggers remained very effective. By late summer even anglers using downriggers and wirelines will be struggling to reach many of the fish though those who are prepared to run two or three hundred metres of wire may still be in luck.

This summer as part of the trial introduction of downriggers we have undertaken regular flights to count the number in use. Despite local sports shops

reporting high sales and a lot of interest, use on the lake is low. So far the greatest count is 15 downriggers in use around the whole lake on a flight on 26 January in which 217 anglers in total were counted. These counts will continue through to the end of April.

Angler numbers were generally down on last year. The average counts of total anglers on Lake Taupo just after dawn for the survey days over spring and Christmas for the last five seasons is given in the following table.

Season	Spring	Christmas
1990/91	195	353
1991/92	-	435
1992/93	139	454
1993/94	205	507
1994/95	138	410

TABLE 4 *Angler numbers as described above. There is an interesting decrease in angler numbers given that we have a significant increase in licence sales this season.*

A feature of the maiden fish caught has been their excellent condition. There is both a very strong young year class which entered the lake fishery this summer and a large number of big maiden fish of 2.5 to 3.0 kg present. These fish should provide excellent angling when they run the rivers next winter to spawn. A maiden rainbow of 5.1 kg (11.25 lb) was recently taken from a boat skippered by Fishery Manager John Gibbs. This highlights that skill isn't always necessary to catch trophy fish!

Less consistent than recent years was the evening rise on the Tongariro, largely because many of the kelts which usually comprise the bulk of the larger fish taken had already returned to the lake. However, it was a great summer for cicadas and when conditions were suitable a number of anglers enjoyed success fishing large dry patterns in the lower river in mid- to late-January.

The cicadas coincided with the movement into the lower Tongariro of large numbers of big brown trout. Over the next few months these fish will slowly make their way up the river to the spawning tributaries like the Manga-mawhitiwhiti, Waipa and Whitikau. As well, several small pulses of between thirty and fifty fresh rainbows have passed through the Whitikau trap in January and February.

IMPACT OF FLOODS UNCERTAIN

As many anglers are aware, the Taupo rivers were subject to a succession of floods right through the winter of 1994, including several large floods in November. These freshes have certainly had an impact and the numbers of fry and juveniles now present in many of the tributaries are far fewer than in recent years. However, what the effect on the trout population will be is uncertain.

In any year nearly all the fry which hatch from the gravels will fail to survive to maturity. Most of the fry which died as a consequence of the floods are likely to have died from other causes anyway. It is also evident from our smelt monitoring and other work in Lake Taupo that numbers of small juvenile trout are living quite happily around the margins of Lake Taupo despite some previous evidence that trout must be larger than approximately 100 mm to survive in the lake.

Another feature of the Taupo fishery is that a number of spawning tributaries such as the Waitahanui and Tokaanu streams are spring fed and not so affected by floods. Progeny from these streams may help balance those lost in other rivers.

It will be at least another year before an effect, if any, is apparent in the adult population. It is a wild fishery, though, and like any wild population it never remains static. Numbers of trout in the lake this summer are exceptionally high and realistically any trend can only be downwards. Perhaps this is the event which will cause this fluctuation. In the same way the fishery can recover quickly under favourable conditions as demonstrated over the last couple of years following the extreme low of the late 1980s.

LAST WINTER'S RIVER SURVEY RESULTS

Analysis of last winter's satisfaction survey results from anglers interviewed on the Tongariro and Tauranga-Taupo rivers indicate a reduced level of success. Catch rates (fish/hour) for each year since 1992 are shown below.

	1992	1993	1994
Tongariro	0.27	0.3	0.21
Tauranga-Taupo	0.32	0.41	0.31

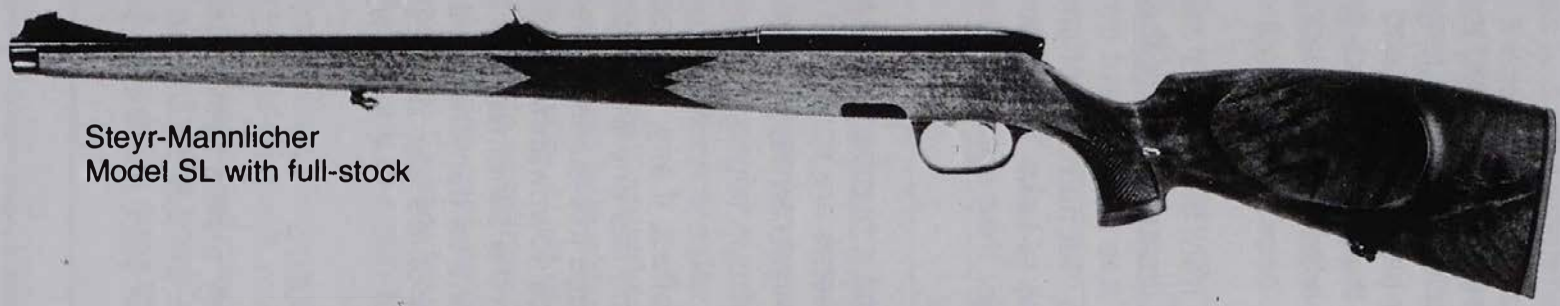
TABLE 5

Steyr Mannlicher

N.Z. Agents:

New Zealand Ammunition Company

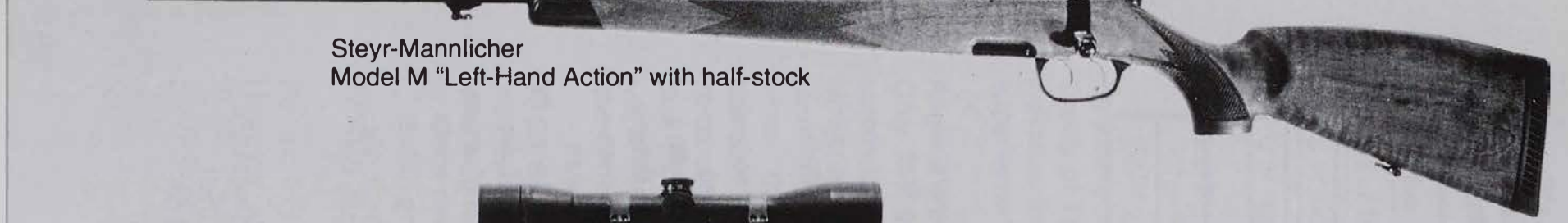
P.O. Box 40 - 401 Upper Hutt



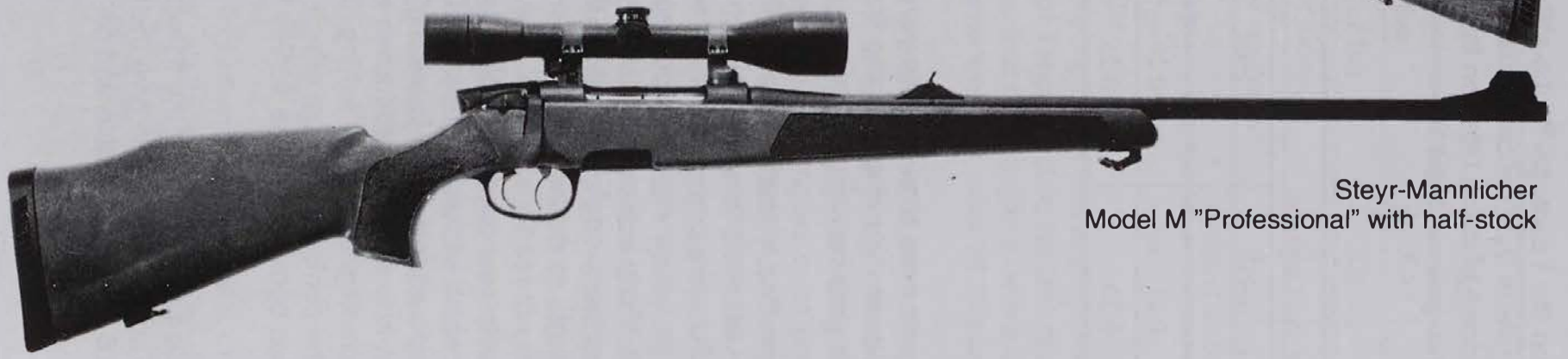
Steyr-Mannlicher
Model SL with full-stock

Steyr-Mannlicher
Model L with half-stock

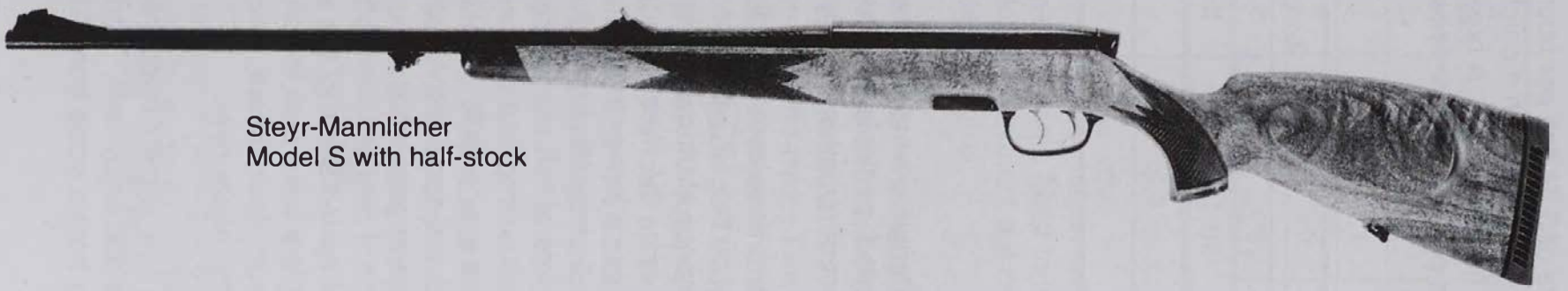
Steyr-Mannlicher
Model M with full-stock



Steyr-Mannlicher
Model M "Left-Hand Action" with half-stock



Steyr-Mannlicher
Model M "Professional" with half-stock



Steyr-Mannlicher
Model S with half-stock

Steyr-Mannlicher "Jagd Match"
Model SL with half stock and reinforced barrel

An average catch rate of 0.31 fish per hour on the Tauranga-Taupo still reflects an excellent season though a catch rate of 0.21 indicates many anglers struggled on the Tongariro. A breakdown of catch rates on the Tongariro by method and part of the river fished is given in table 6.

	Area of the Tongariro		
Method	Lower (up to SH 1 bridge)	Mid (up to Red Hut bridge)	Upper
Nymph	0.26	0.21	0.20
Wetfly	0.20	0.20	0.25

TABLE 6

Catch rates by wetfly anglers were on a par with most seasons. However nymph anglers struggled, particularly in the upper river where for the first survey since the boom of nymphing, wetfly anglers had more success.

For many years anglers have commented how they wished the flow in the river was not affected by the TPD scheme. Last winter's unusually high rainfall and a maintenance shutdown at the Tokaanu power station combined to cause ECNZ to operate the river close to its natural regime. For long periods the river ran much higher than usual. Early in the winter the angling had been excellent but under the higher flows many anglers found the fishing difficult. There were lots of fish passing through, as evidenced by the numbers through the Whitikau trap, but they were not readily available. It was noticeable that anglers struggled to adapt to the new conditions, often trying to fish the same lies with the same techniques which worked under much lower flows. However, those anglers who were prepared to explore found that areas which previously had not held fish were often now the most productive spots. These flows also highlighted some of the advantages of wetfly fishing. Over much of the river anglers were able to fish the pools much more effectively with a sinking line swum downstream, which is borne out by the survey results, particularly in the upper river.

Table 7 summarises how anglers rated the size and quality of the fish caught, their level of success and enjoyment. Each angler is asked to give their impression, selecting from a scale from 1 to 5 where 1= terrible and 5= excellent.

	Tongariro			Tauranga-Taupo		
	1992	1993	1994	1992	1993	1994
Size of fish	3.7	4.2	4.2	4	4.2	4.2
Quality of fish	3.8	4.3	4.2	4.1	4.3	4.1
Level of success	3.5	3.7	3.6	3.6	3.9	3.5
Level of enjoyment	4.3	4.8	4.6	4.8	4.8	4.6

TABLE 7

This table highlights that anglers have been very happy with the size and quality of Taupo trout in the last couple of years. Most importantly it also indicates that most anglers derive a lot of enjoyment out of their angling experience which is, after all, the underlying goal.

Anglers are also asked if anything detracts from their angling experience. Only 17% of Tongariro anglers commented on overcrowding which was somewhat surprising given nearly 30% commented on this last year, when similar numbers of anglers were present on the river. Two percent commented on a lack of fish, illustrating the improvement in the fishery since 1991 when 18% raised this as an issue. On the Tauranga-Taupo the major detraction was poor tracks, raised by 20% of anglers. Unfortunately most of the comments are directed towards the state of the road up to the Crescent on the true right. This is a private road for the use of which a charge is made; the Department has no role in its maintenance. At least in the short term this is one concern we are unable to remedy.

These surveys will be repeated this winter. Please give five minutes if you are approached by a conservation officer. It is an opportunity to let us know what you think about your fishery or to ask any questions you may have.

TRACK MAINTENANCE

For most of us one of the downs of summer is having to mow the lawn. However, spare a thought for the university students the Department employs to assist with maintenance of anglers' tracks, willow eradication and other unenviable tasks.

With approximately 75km of tracks to cut and maintain, up to eight staff are kept very busy with scrub bars. The tracks are cut at the beginning of November and are continually maintained through until early March. Just think what your garden would look like without any maintenance over summer! All river tracks, from Taupo to Turangi, are covered to ensure that when the winter influx of anglers occurs they are up to a suitable standard. Any bog holes are drained and boardwalk made of fence batons and wire is carried in and laid over the holes to give the ground better stability. Washed out tracks are realigned, steps are installed in steep terrain and tracks to new fishing pools opened up.

The work is hot, tiring and hard, yet the students still manage a smile at the end of the day. From left: Vince Yeoman, Nigel Tidswell, Rachel Kingsbury, Dallas Flight & Joanne McQueen. The only question is, where is the boss, 'Bonzo' Ngamotu?

REPORT OF DEAD FISH

During the early summer we received reports of dead fish along the lake shore and in several rivers. The first impression might be that something was definitely wrong. However, a closer look revealed that most dead fish at this time of the year can be easily explained.

Smelt spawn from November until March. The smelt have the potential to spawn three times during this period. However, most of them will die after having spawned for the first time. The few which have survived will eventually spawn for a second time but usually none survive to spawn for the third time. This pattern of spawning mortality means that millions of smelt will die during this period. What happens with these dead bodies? The birds, the koura and maybe the catfish will feed on them. Wave action will also disperse them but can wash many of the remaining bodies onto the beach. If we have a good stiff offshore wind then it will be hard to find them. However, if we have a long calm spell of settled weather, like we had during most of January, then the remaining fish will be visible along the water line. This explains many of the comments we receive each year.

The next most numerous dead fish likely to be found along the lake shore in summer are bullies. These fish spawn along the shore of the lake in summer and also suffer a high post-spawning mortality. Again the weather pattern can have the effect of spreading the dead bodies along the beach.

A much stronger emotional response occurs at the sight of dead trout, especially when their size is above the magic 10 pound mark like one collected off Five Mile Bay. A close examination of the fish revealed that it had been hooked in the gill arches, had escaped but lost all its blood through the injury and died of asphyxia. Our study on catch and release mortality (see Target Taupo, March 1993) has shown that a small proportion will not survive being caught (less than 15%). We expect to see a few dead trout, especially along the shore of popular trolling spots like Mission Bay or Tokaanu Bay and even more so during periods of high fishing pressure, such as at Christmas. Spent trout which have failed to recover will also die and it is not uncommon at this time of the year to see such fish drifting down the river unable to swim properly. Often these fish get tangled in submerged trees and rot among the branches or in the shallow margins of the river.

Massive death such as that caused by a spill of toxic effluent into the lake or rivers, or by an infection, is of much greater concern. Fortunately no such disaster has occurred here yet. To detect the cause of such massive mortality, to try to find those responsible and to avoid the same thing occurring again

is part of our role. To achieve this we need your help. If you witness a large number of dead fish (say more than 10 confined in a small part of the lake or drifting down the river, belly up) the most helpful thing you can do is to collect some of these fish, store them in the freezer and advise the Department immediately, so that we can investigate the matter further. In the meantime, note everything which appears unusual like a strange smell or colour of the water, any other dead species, and, if some of the fish are still alive but on the verge of dying, observe their behaviour. If you come across a dead fish which has obvious signs of disease pick it up and freeze it or alternatively you can take a photograph of the fish. Verbal secondhand reports of dead fish of unknown species are of very limited use.

RADIO TAGS TO BE USED

The Department of Conservation in conjunction with NIWA will be using radio tags to follow the movement of trout up the Tongariro River this winter. Fish will be caught using the trap in the lower river as they make their way upstream at the start of their spawning migration. The tags are surgically implanted into the stomach cavity while the fish is anaesthetised. This procedure has been approved by the Department's Ethics Committee which has a statutory responsibility to ensure animals are not mistreated. After the fish have recovered they are released to continue on their way. Each tag emits its own frequency and every few days staff will cover the river using a scanner, much like a television aerial, to pinpoint the location of each fish. Each tag lasts for three months once activated and, if recovered, can be recharged. Fish will be tagged in pulses of 20 and up to 100 tagged fish are likely to be present at any time.

This project will provide valuable information on how the fish move through the river, rates of movement, where they rest up and so on.

These fish are readily distinguishable by a bright yellow wire approximately 150 mm long which extends from the vent. Ideally, if you do catch a tagged fish, please release it again and let us know when and where this occurred. If it is already dead please return the tag and the details.

This year, as part of the project to determine what proportion of the total run enters the Whitikau Stream, we will also be tagging fish in the lower river using double yellow floy tags. These are yellow spaghetti-like tags approximately 50 mm long which are anchored at the base of the dorsal fin, one on either side. Each tag is marked "Department of Conservation, Turangi", and

carries an individual number. Using two tags reduces the likelihood of the fish losing both tags.

Again, if you catch a marked fish, please forward details of the location and date of capture, along with both tag numbers. These tags have been used to make the fish more obvious, both to anglers and fisheries staff as they pass through the Whitikau or hatchery traps.

REPEAT OF LAKE TAUPO HARVEST SURVEY

Over the 1990/91 season an extensive survey to estimate the trout harvest from Lake Taupo and the Tongariro River was undertaken. This involved regular aerial counts (272 flights) and interviewing anglers (9,000 interviews) about their success. The results of the survey confirmed managers' perceptions that harvest could potentially have a major impact on the fishery in times of low production. The survey coincided with a decrease in licence sales and a low point in trout numbers. Since then both sales and trout numbers have increased significantly.

In order to manage this increased use and its impacts, it is essential to update our estimate of the trout harvest. Therefore we intend to repeat the 1990/91 survey over the 1995/96 season starting on 1 July. This will also coincide with a national survey being undertaken by the New Zealand Fish and Game Council to estimate angling use of different waters throughout the country.

With some modifications in survey design, data from our survey will be able to be slotted into the national survey.

A more indepth discussion on the methodology will appear in the July issue of Target Taupo.

TROLLING SEMINAR

Over Christmas fisheries staff John Gibbs and Glenn Maclean gave a trial seminar at Motutere Motor Camp on trolling techniques to use on Lake Taupo. This seminar was designed to provide people with the information to be able to make the most of their angling trip on the lake. It covered such things as equipment and tackle to use, how to use it, what rigs and lures to use and when and where to use the different techniques. Over 80 people attended the seminar on the lakefront which seemed to be very well received. Several people commented that it all seemed so simple once someone explained it.

In light of the success of this trial staff will repeat these seminars at three or four locations next Christmas as well as trialling a winter river fishing seminar, to be held at the National Trout Centre on 10 June at 10.00 a.m.

This session will cover such things as basic techniques and rigs, where to fish, when the fish run, and etiquette on the river. If you are new to the sport or success is proving elusive, this should prove very worthwhile.

FISHING LICENCE SALES

Licence sales in all categories are up this season compared to the same period for the 1993/94 season. Adult season and child season licences in particular have increased substantially, approximately 11% and 14% respectively. Perhaps this shows that anglers have realised that they are getting "value for money".

Sales to date for the 1994/95 year are as follows (1993/94 sales in brackets):

Adult Season	10,629	(9,553)
Child Season	4,888	(4,255)
Adult Month	662	(640)
Adult Week	5,717	(5,425)
Adult Day	21,087	(20,885)
Child Day	4,338	(4,074)

HARVEST SURVEY ON LAKE OTAMANGAKAU

This season we have undertaken a survey to estimate the total trout harvest from Lake Otamangakau. Based on the 1990/91 Lake Taupo harvest survey this involves regular counts of all anglers on and around the lake during the selected day, as well as interviewing anglers to gain a sample of catch rates. Most interviews are done as anglers return to the ramp and on many days it is possible to interview just about all the anglers present during the day. This survey involves 32 days over this season, most of these having already been done. As well as catch data staff have also asked anglers for scales and the heads of any fish they have kept, which will be used in a project to determine trout ages and life history in the lake.

A full report will be published in the July issue of Target Taupo, at the completion of the survey. This survey, along with the trapping project and release of fin-clipped juveniles, is part of a longer term project to provide the necessary information to manage this lake as a trophy fishery.

A feature of the fishing on Lake Otamangakau this season has been the excellent condition of the brown trout and several fish up to 5.5 kg have been reported. However it is also very apparent from the survey that most anglers are having to put in many hours to be successful. There was a large cicada hatch around the lake but rarely were weather conditions suitable to result in large numbers falling onto the water. Quite frustrating really!

There were also numerous reports early in the season about setlines and longlines in the lake. These were regularly checked out and on all but two occasions were baited with large pieces of meat on very large hooks. Eel fishing is legal but the onus is on the angler to convince us they were not targeting trout. We get very interested when lines are baited with trout roe, for example. If you see something you're not sure about let us know immediately, many of these reports come in several days after the event!

A FISHY TALE

* This fish was caught harling when the fly hooked into the tangle of copper wireline. Attached to the wire was a silver flatfish, solidly embedded in the bottom jaw of the unfortunate fish. It was caught off the bluffs between Whangamata and Whakaipo bays over Christmas 1993/94. Pictured are the successful anglers Juliet, Chris and Sam Hooton.

OTAKETAKE STREAM

The Otaketake Stream is a small spawning stream running into the lake in Whangamata Bay. During the last twelve months this stream has been subjected to several flash floods after receiving heavy rainfall in its catchment area.

One of these storms caused a small side stream to wash out, depositing pumice and vegetation in the main Otaketake, blocking the stream and causing the water to run under this blockage. This blockage was about the same size as a rugby field.

Another storm in February caused this blockage to be washed down the stream, badly scouring the streambed and banks on its way. All this pumice and vegetation has been deposited around the stream mouth and in the lake, causing a delta at the stream mouth.

Anglers fishing this stream mouth should take care as the pumice is extremely soft and the vegetation extends 100 metres out into the lake.

* We're not quite sure what pupose the rope serves. With the popularity of four-wheel-drive vehicles, drivers seem continually to have to test their prowess by driving that bit further along our angling tracks, or in this case along the lakeshore at Kinloch. Unfortunately such practices are very damaging to the environment, though in this case it didn't prove too good for the vehicle either! And yes, it is a Range Rover!

KAIMANAWA BOVINE TUBERCULOSIS SURVEY

In November/December 1994 Environment Waikato, with funding from the Animal Health Board, undertook 30 hours of *wild* deer aerial recovery from the northern Kaimanawa Range, including the northern part of the Kaimanawa RHA, to collect further data on the distribution and prevalence of *Bovine Tb*.

A total of 55 deer (28 sika hinds, 11 sika stags, 8 red hinds, 8 red stags) were recovered and delivered for autopsy by MAF vets, from an area covering some 35,000 ha between the Waipakihi River and Clements Road. These included 16 sika deer from the Clements Road/Hinemaiaia blocks of the Kaiamanawa RHA.

The survey area and the locations from which the carcasses were recovered are shown on figure 1, opposite.

A total of 3 deer (all sika hinds) showed lesions consistent with *Bovine Tb* and upon culture, tested *Tb* positive. The locations of the *Tb* positive animals is also shown on figure 1. Other ailments encountered included lung damage in two deer from pleurisy, two deer that had been shot previously and recovered, and an old hind with arthritis in three leg joints.

Although the level of *Tb* infection in the herds is low (5.45% of deer surveyed) compared to other areas in the central North Island (41% behind the Justice Department lands on the north-western boundary of Kaimanawa Forest Park - January/February 1994, 30% in the Hauhangaroa Range - Dec 1993), the presence of the disease so far east of the previously known area of infection is of concern.

All hunters are asked to carefully check carcasses harvested from the Kaimanawa Range in future and to report any suspect animals either on their hunting diaries or to the land administrators in the case of the numerous private blocks in the region.

This issue is not only important to our nation's economy but it is important to every hunter who utilises the Kaimanawa deer resource, both on private and public land. *Bovine Tb* is present over a large part of the northern Kaimanawa Range. Your co-operation is sought to help provide a clearer picture of this disease.

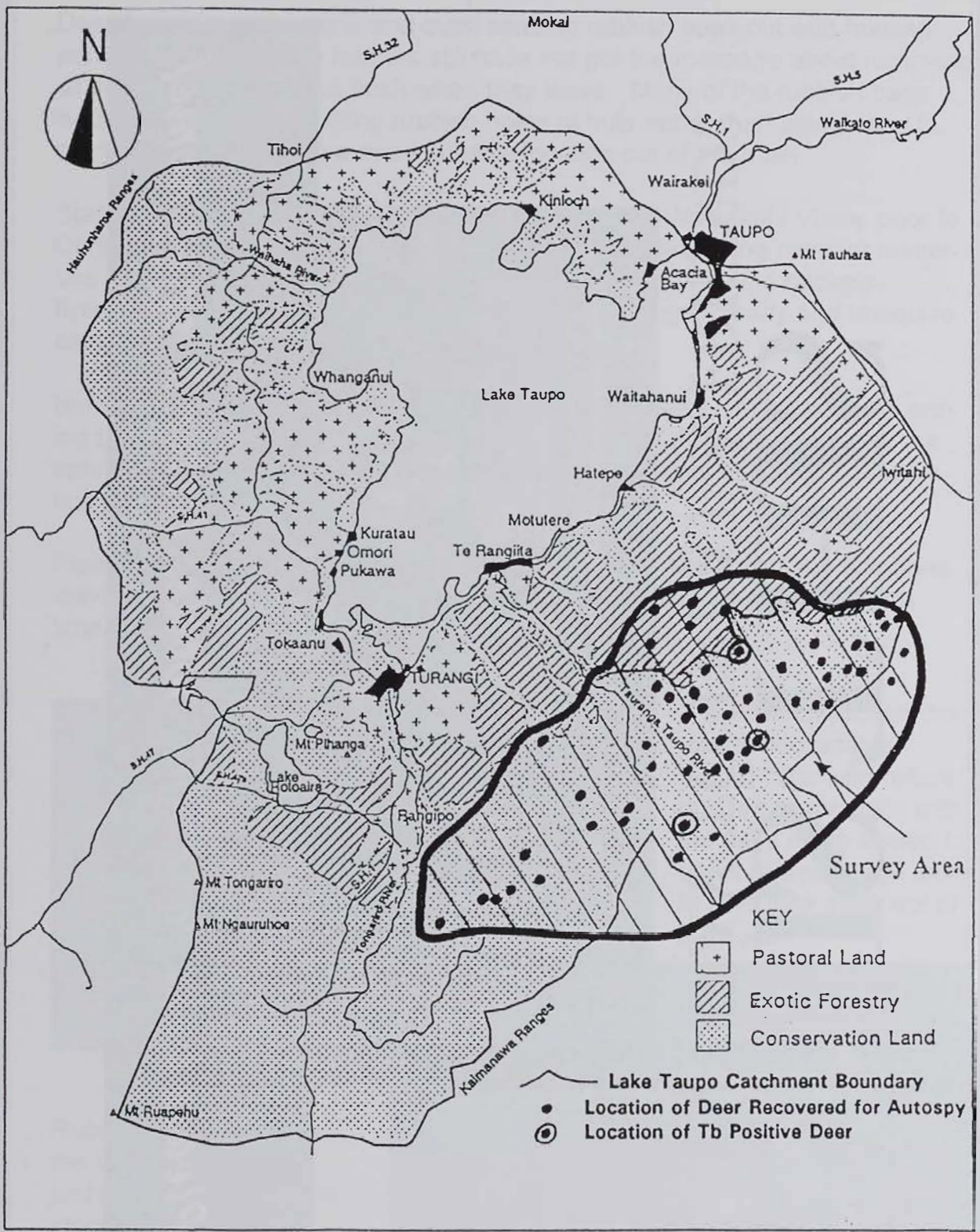


FIGURE 1 *Survey area and recovery locations for Kaimanawa Bovine Tb deer surveillance operation - Nov/Dec 1994.*

IS THIS
ANYWAY TO TREAT A FRIEND?

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

RUBBISH!

Despite media campaigns and even sending rubbish bags out with hunting permits it seems many hunters still have not got the message about removing all their rubbish from the bush when they leave. Many of the rubbish bags issued have ended up filling rubbish holes at huts rather than being used to carry people's waste to a more suitable location out of the bush.

Staff undertook the annual rubbish collection in the Waipakahi Valley prior to Christmas to find what can only be described as a disgusting mess at numerous campsites throughout the valley. The presence of ammo packets, flyspray cans and rotting deer remains points the finger clearly and unequivocally at those using the valley for hunting.

Nineteen bags of rubbish were removed from the valley - much of it, according to the use-by dates on food wrappers, deposited during the roar and the spring. Such exercises consume unnecessary amounts of limited conservation resources.

Please! Have a little respect for the bush this roar - and if you see someone leaving a campsite in a state that is less than desirable, give them a hard time. This sort of abuse has to stop!

A typical hut rubbish hole (for biodegradable *waste) filled with refuse and, more recently, with the bags being issued to users to encourage them to take their trash out of the bush.*

Rubbish collected from the Waipakihi Valley just prior to Christmas is stockpiled ready for removal to a more suitable location.

1080 OPERATIONS : WINTER 1995

Applications have been received from both Environment Waikato and the Manawatu/Wanganui Region Council, to undertake a total of three large-scale aerial 1080 poison programmes on land administered by the Tongariro-Taupo Conservancy of the Department of Conservation this winter, on behalf of the Animal Health Board (AHB). These operations are all part of the AHB's *Bovine Tb* control strategy. The Department is currently going through the necessary procedure before granting authority.

The applications involve the following areas:

1 Southern Tongariro Forest - This operation covers 11,000 ha of land on and adjoining the Raurimu and Taurewa LandCorp farm blocks, and north of the Whakapapa River into the ITT Rayonier Pines, the Otamamawairua, and the upper parts of the Okupata and Waione catchments. The application is for the use of 1080-impregnated carrot distributed by helicopter. The council have requested authority to undertake that part of the operation south of the Whakapapa River in March, and the remaining area north of the river in May after the roar.

2 Lakeshore Reserves - This operation will complete the work started last autumn, extending from Waikino on the western shore of Lake Taupo, south to Waihi near Tokaanu. It includes Te Hapua, Rangatikua, and the series of small scenic reserves between Pukawa and Waihi. This operation will also use 1080-impregnated carrot distributed by helicopter. Environment Waikato have applied for authority to undertake this operation in April.

3 Mount Tongariro - This operation will include some 8,000 ha of land on the southern and western shores of Lake Rotoaira, including below the bushline within Tongariro National Park on the northern slopes of Mount Tongariro. The operation is planned for August but at this stage the method of control is not known. It is possible 1080-impregnated pellets will be used if *Tb* deer surveillance operations show no *Tb*-infected feral deer in the area. This surveillance is currently underway but results are some months off yet due to the delays in confirming the presence or absence of *Tb* in suspect deer.

The operational boundaries of the areas for which approval is being sort are shown on the map in figure 2, opposite.

Maintenance control operations on bush pasture margins using traps, cyanide, night shooting and 1080 paste and jam is also ongoing around the conservancy. The major areas include the lakeshore reserves north of Waikino, the

north-western corner of Tongariro Forest near Owhango and the scenic reserves between National Park and Taumarunui. Hunters should take heed of all poison warning signs in hunting areas to avoid putting their dogs at risk.

FIGURE 2 *Operational boundaries of areas for which approval has been sought by regional councils for possum control on DoC-administered lands during winter 1995.*

1995 SIKA TROPHY COMPETITON

The Department of Conservation, in conjunction with the Taupo Branch of the New Zealand Deer Stalkers Association, "The Fly and Gun (1993)", and many other sponsors, is running the third annual Sika Trophy Competition this autumn.

See the advertisement on page 16 for details and make sure you enter your sika heads this year. Every head, big, bad or ugly has a chance to win over $7,000 worth of prizes, so make sure your head is in to win and help us to learn more about the central North Island sika resource.

The Pureora trophy competition will also be running again in April and Wellington Conservancy are planning another "Big Hunt" this year. For further details contact your nearest Department of Conservation office and pick up a brochure. Both these competitions have great sponsorship and some excellent prizes are up for grabs.

HOROPITO ACCESS

Many hunters were more than a little disappointed to find that the Horopito access to Tongariro National Park through Bishop's farm had been closed at the end of winter last year due to a bridge washout. Many made very strong comment on their hunting diaries.

The news is not all bad, but we still can't provide a definite timetable for the repair of the bridge. This access is top of the priority list in the latest conservancy funding bid and, failing funding from this source, other options still exist. We hope to bring you further up-dates in the near future. Watch this space.....!!

ERUA EXOTIC FOREST HUNTING PROHIBITION

Hunters are reminded that the hunting ban in the area of the exotic forest harvesting operation in Erua forest is still in force. This prohibition has been imposed at the request of the harvest contractors following a couple of "incidents" last year.

The prohibited area includes all that land east of the Waimarino Stream to State Highway 4, between Erua Road and the Makatote River. Please respect this prohibition.

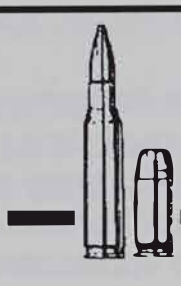
RANGATAUA LOGGING OPERATION

The harvesting of the remaining stands of *Pinus contorta* in Rangataua Forest will continue over the next few months. Hunters using the road during the week are asked to beware of logging trucks on the road. This is only a temporary inconvenience, but one that will help remove a significant protection problem in the region. Your patience and co-operation are appreciated.

RANGATAUA SHORT-TAILED BAT COLONY

The media have been running a number of bat stories in recent months as a result of the discovery of a very large colony of short-tailed bats in Rangataua Forest. A research programme is under way to learn more about these creatures and their secret lives. The research team is currently working throughout Rangataua Forest studying their movements and habits, and are out at all hours.

If you are hunting in the area this roar we ask that you take extra care to identify your target. As always ..... your co-operation is appreciated. ■



Custom Cartridges

TAUPO, NEW ZEALAND

IS PROUD TO SUPPORT THE 1995 SIKA TROPHY COMPETITON

Any custom cartridge customer entering this year's competiton is in the draw to win a refurbished BSA Hunter

With a new 308 barrel, oiled stock, 3.5 - 10 x 45 Nikko scope and steel rings

The draw will be random, from the customers who have entered the competition and who are present at the prize giving

SERVICES PROVIDED

Rifle blueing	Glass bedding
Stock refurbishment	Barrels freefloated
Bead blasting	Recoil pads fitted
Scope mounting	Rifles for sale
Firearm repairs	Custom made ammunition
Firearm cleaning	Firearms for sale

AMMUNITION

22 Ammunition
Over 80 centre fire calibres
12 gauge game loads (from $9 per packet)

SCOPES

Nikko Sterling, Tasco, Weaver, Burris, Leopold, Swarovski, Kahles

OTHER ITEMS

Rifle Slings and Swivels, Recoil Pads, Projectiles, Powder, Reloading Tools, Cleaning Accessories

Sika Trophy Competition Prize (Firearm, scope and srings, artwork) supplied by the following:

CUSTOM CARTRIDGES, CAMERON SPORTS IMPORTS AND CHRIS SHORT

Mark Bridgman, 38b Arthur Crescent, TAUPO, New Zealand
Telephone (064) (07) 378 4593 - Facsimile (064) (07) 378 2377
Licensed Arms Dealer - Member of the NZ Gunsmiths' Society
Licensed to manufacture ammunition and sell explosives
1995 SIKA COMPETITION

MANAGER PROFILE

ROY BAKER

Roy was previously employed with the Taupo Field Centre as the supervisor on the Tourism Green Spa/Huka Falls track redevelopment, and also Task Force Green possum control and survey projects.

Prior to that he had 25 years involvement in the motorcycle and cycle industry.

Married with four school children, he is involved with their various activities. Roy also enjoys hunting, tramping and canoeing.

As a member of the fisheries team Roy works on fishing access and willow control. ■

NOTES...

TONGARIRO/TAUPO

WORKING

FOR

YOUR

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A Sporting Paradise