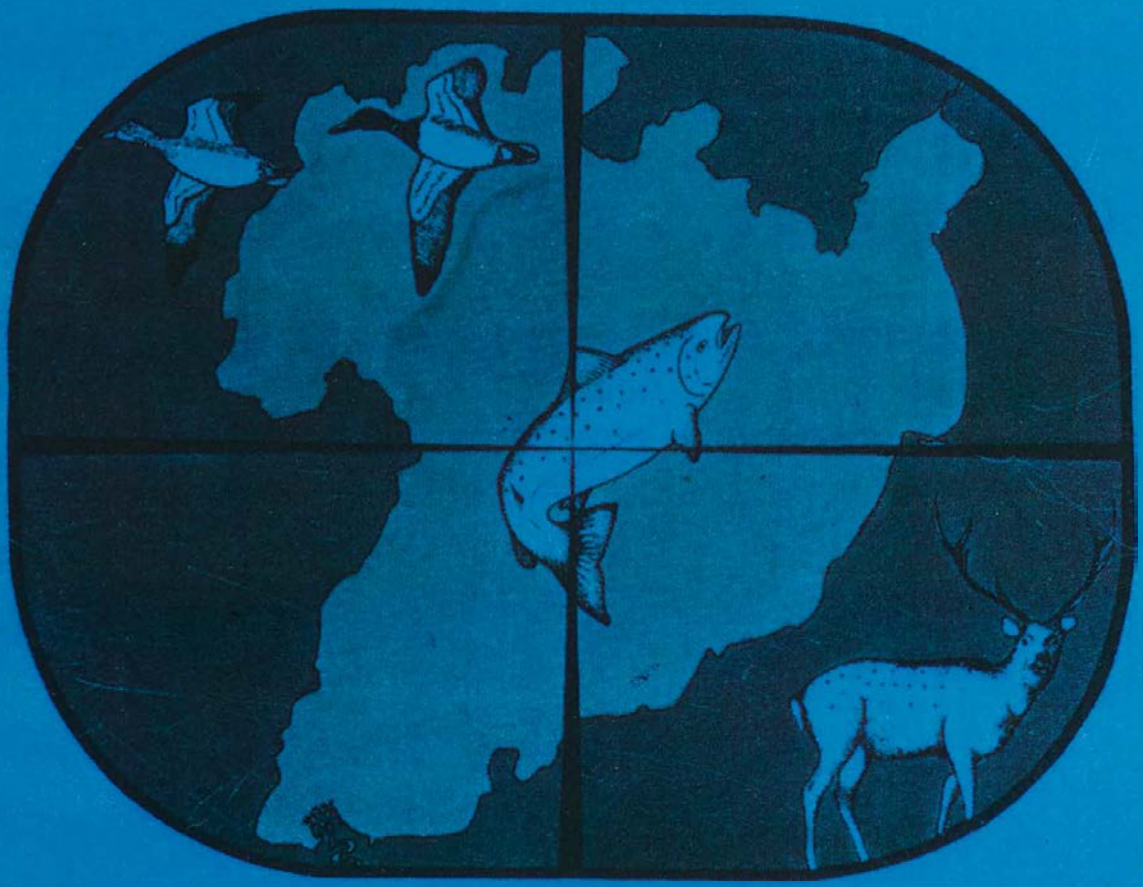
JULY 1990
Issue 4

TARGET TAUPO

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



CONSERVATION

TARGET TAUPO

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

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CONSERVATION

Dear Sportspeople
Welcome again to this, the fourth issue of "Target Taupo". We hope that you continue to be informed by, and indeed enjoy, the material we have put together for you in this issue.

With the spawning runs well underway, trout seem to dominate the minds of many sportspeople at this time of year, but for the keen hunters among you, hunting during winter offers a new challenge (read more Inside!).

For those of you whose quarry is more the feathered airborne varieties of game, changes in administration on the local scene are starting to be felt. Late in 1989, the establishment of a transitional fish and game unit to deal with sports fish and gamebird issues (excluding the Taupo fishery which has remained with DOC) took game responsibility away from local DOC staff. The unit will retain responsibility for a period of at least six months under the Eastern Fish and Game Council.

Although local staff are no longer involved in the day to day management of gamebirds, they are still actively involved in habitat protection which benefits both native wildlife and game species alike.

Many staff enjoyed the opportunity of holding a shotgun instead of a notebook on the opening morning this season for the first time in many years, but true to form, after 10 days of near perfect duck shooting weather leading up to the opening, Saturday 5 May dawned fine, calm and clear, resulting in a generally poor start to the season. Maybe next year!

We are keen to see a bigger reader input into Target Taupo so we have provided a form in this issue which allows you to contribute to future issues. If you are interested, fill in the form and send it back - we would be happy to hear your ideas. Letters to the editor will also be welcomed.

Tight lines for the rest of the winter fishing.

Cam Speedy Co-Editor

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1 THE DIET OF TROUT IN LAKE TAUPO

An article by Fishery Scientist, Dr Martin Cryer

Anglers are always interested to know the feeding habits of the fish they seek because such knowledge can help them to present the right bait at the right time in the right place and so catch more fish. When fishing for fussy stream-dwelling trout this can mean "matching the hatch" and presenting a fly designed to imitate those on the water. Frequently a properly-presented general pattern can be similarly effective, but this does not detract from the pleasure of choosing the right prey to imitate and then fooling a wily old trout into taking a carefully dressed copy.

However, fishing at Taupo is a little different. It is well known that trout taken during their spawning runs up the Tongariro and other local rivers generally have very little in their stomachs, so what can we present as an imitation? The answer seems to be to present something that sparks an interest in the fish, maybe reminding it of a common prey item during its stream-resident days as a juvenile, or provoking an aggressive response. Most of the successful Tongariro flies are, at best, only mildly reminiscent of natural prey items, although a small imitative fly fished together with the more usual "cannon-ball" can be most effective. Presentation seems to be more important than pattern, and this means fishing deep - preferably bouncing along the bottom. Heavy weighted nymphs or fast sinking wet lines are needed for trout running to spawn as they very rarely rise in the water to take lures drifting above them.

So what of the lake itself where a large proportion of Taupo's trout are taken by boat anglers? Anecdotal evidence amassed over the years suggested that smelt and koura are very important for Taupo trout, and a scientific study of angler- caught fish by Theo Stephens in the early 1980s confirmed this for legal-sized rainbows. However, before 1988, very little was known about the diet of undersized trout in the lake (as opposed to those still resident in nursery streams, for which DOC has quite a bit of data) so, as part of a wider study of the trout population, I planned to study the diet of small fish.

I caught these fish using a team of short research gill nets set around the lake at all times of year, and in the whole range of habitats available to trout. Some nets were set on the bottom in up to 70 metres of water, some floated on the surface (with up to 50 metres of water beneath them), some were set to fish in midwater, and some were set close inshore where they stretched from lakebed to surface. Most nets were set within 1 km of the shore, but some fished as far out as 2.5km. This two year survey represented a very thorough coverage of the trout population, and has given us a detailed knowledge of the diet of both small and large trout in the lake.

Stomach contents examined from a total of 749 fish show that smelt are by far the most important prey for Taupo rainbow trout. About 80% of all items found in the stomachs of juvenile trout were smelt, the remaining 20% being made up of small insects (green beetles, midges, etc.) and a few small fish other than smelt (bullies and catfish). No undersized trout contained koura. Larger rainbow trout contained a slightly lower proportion of smelt (65%), and insects (16%), with reasonable numbers of other fish and koura (1% each). Twelve percent of items found in the stomachs of legal sized rainbow trout were snails, but most were very small.

As the size of different prey types varies so much, we usually assess the diet of fish in terms of the amount of food eaten rather than the number of individual prey items. Looking at things in this way, the importance of smelt is overwhelming for undersized trout in Taupo. Between 94 and 99% of the diet of such trout is made up of smelt, with small bullies and insects adding the balance (6%) in summer. Effectively, this means that small trout in the lake have nothing to eat except smelt, and if they can't find or catch these little fish then they're simply not going to make it. This has little relevance to anglers wanting to present a suitable lure as the fish are too small to take anyway, but it does underline the crucial importance of smelt in the food chain.

The importance of other fish, insects and, to a lesser extent, koura is greater for trout of 35 to 45cm in length, although smelt still make up 84 to 99% of their diet. These are the lovely fat maiden fish caught by deep trolling or harling in the lake: good fighting fish (given the freedom from leadlines) and great eating. They are heavily dependent on smelt, and consequently respond well to lures designed to imitate fish. Presentation also comes into the equation though - only at certain times is it possible to catch good numbers of trout using shallow trolled lures, the rest of the time we have to fall back on deep trolling to reach the feeding fish.

It may not be widely known, but during daylight hours, the bulk of Taupo's smelt population lies below 25 metres depth for the whole year, and during the winter the main concentration is at about 90 metres! These are not accessible depths for conventional deep trolling techniques, so we have to accept that most trout are beyond our reach for most of the time too. During the evening, the smelt rise to the surface, and remain there for most of the night, and this may explain why the fishing is frequently better early in the morning and last thing in the evening. Only in November/December do appreciable numbers of big fish remain in shallow water throughout the day, and at this time the harling can be superb.

The diet of large rainbow trout (over 45cm) consists of 50 to 80% smelt, the balance being mainly koura (up to 40%), bullies (5 to 14%), insects (3 to 7%), and snails (2%). It is clear that these big fish are taking a larger proportion of large, relatively slow moving prey items. Maybe chasing small, elusive prey such as smelt is less profitable for large fish than for smaller ones, or maybe the bigger trout have simply reached a size where they *can* tackle things like koura. We don't really know the reason, but larger rainbows certainly take a wider range of prey items so (in theory) they should respond to a wider range of lures. Strangely enough, these large fish seem to take less food than slightly smaller trout, and this too may be a result of their less active foraging tactics.

Stomach contents of the small number (20) of brown trout taken in the two years suggested a considerable dependance on bullies; 15% of the diet of undersized and 55% of the diet of legal sized brownies consisted of these bottom dwelling fish. Very few koura and insects were found compared with similar sized rainbow trout. This suggests that brown trout feed closer inshore and closer to the bottom than rainbows in Lake Taupo. Anglers frequently find koura in large brownies, and this is probably because they (as a group) examine more brown trout than I have had access to. My sample was very small compared with the 749 rainbows examined, and I would not dare suggest that mine was the definitive study of the diet of brown trout in Lake Taupo.

In summary then, juvenile trout in the lake eat practically nothing except smelt, and this underlines the crucial importance of smelt for the fishery. Relatively small legal fish take mostly smelt, and lots of them, so we can catch them by trolling and harling and covering a lot of ground. This doesn't mean that they can't be caught by trolling methods (because they certainly can), but it should mean that less active methods, fishing slower imitative lures (e.g. at stream mouths or at the Delta) should return a higher proportion of big fish and brownies than trolling does.

Smelt are the single most important item of trout diet in Lake Taupo

2 CHANNEL CATFISH : A MEAL OR A MENACE

Guest Article by Louie "The Fish"

Editor's Note: The opinions expressed in this article do not necessarily reflect those of the Department of Conservation. The article has been included to promote thought and discussion on an issue which is important to many Taupo anglers.

Louie 'the fish' de Nolfo is a native son of the United States of America who has been actively involved in fishing and tourist related issues since taking up residence in Turangi. He offers the following for our consideration.

Some of you may have recently been lucky enough to catch my mug on TV. The crew from the "Holmes" show drove down to Turangi to interview me and others about an absolutely catastrophic issue, one that could affect the lives and livelihoods of many New Zealanders.

Through some blunder the channel catfish has been allowed into our country. To give the reader some idea of the threat this fish would pose to our great trout fishery, I would like to quote two items from the 1989 publication of "World Record Game Fishes" put out by the International Game Fishing Association. Firstly, under all tackle records, the largest channel catfish caught on rod and reel has been 58 pounds, or 26.30kg. This specimen came from a large lake in South Carolina. Secondly, in the species identification category, "channel catfish prefer clean bottoms of sand or gravel in large lakes and rivers. They feed mainly on crayfish, fishes and insects, generally at night in swifter moving currents. At spawning time they will enter and ascend small tributaries and streams".

It doesn't take a whole lot of grey matter to see that having 5lb catfish, much less 50lb catfish, inhabiting our lakes and rivers, eating all and sundry and ascending our spawning streams would be disastrous. Some small voice from the peanut gallery might interject, "But they don't eat spawning trout in America!". That's because they don't have spawning trout in America like we do here. They have hatcheries and one of the many reasons large parts of America don't have good spawning runs of wild trout is because of predators like the channel catfish.

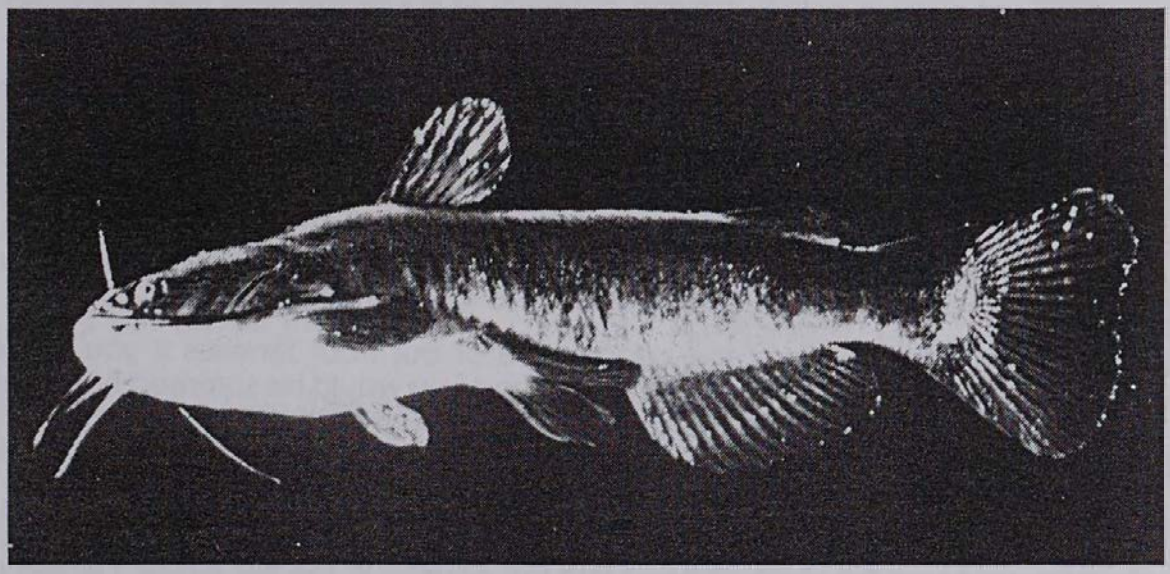
It is equally easy to grasp the importance of our trout fisheries if you are even remotely connected to the tourist industry and you would be surprised how many of us are - airline personnel, hotel and motel workers, restaurants, taxis, buses, food suppliers, wool souvenirs and the guys who grow the stuff, handicrafts, fishing guides and a lot more than one could name in the space of this article.

The arithmetic is fairly simple, so you might well ask yourself how it came to pass that these threatening fish were allowed into the country in the first place. I would really like an answer to that one! After all, we all take for granted the expertise of the government departments set up to protect our environment from just such threats. Would they allow the introduction of the gopher snake to get rid of rabbits, or maybe the lynx to curtail the spread of possums? I don't think so. Yet here we have 4000 channel catfish sitting in a tank in Wellington. An accident waiting to happen. Any right-thinking conservation minded person would come up with the same verdict; it's not a matter of if the catfish escape, but simply when.

What makes the whole episode even more incredible to me is the fact that the Taupo fishery has just recently come under threat by the illegal introduction of another type of catfish. One would think that thorough research on the effects of this species would have been undertaken before allowing yet another larger catfish into the country.

I've discussed the problem of the bullhead catfish at some length with DOC staff who have carried out some research on their feeding habits. They have not found many smelt or koura in the fish they trapped but these were mostly small fish. The brown bullhead can grow as large as Taupo trout and many anglers are already reporting significant and subtle changes in the Taupo fishery.

For instance, it was an almost daily occurrence to hook koura at the Delta. They love to hang on to bright flies. But in the last year I've found this hardly happens at all. Several night fishermen have told me that they often catch bullheads on the fly at river mouths and one fellow reckons as soon as he gets bullheads, the trout disappear. Brown Bullhead Catfish are already well established in Lake Taupo The bullhead is thought to be nocturnal but large bullheads have been seen chasing smelt at Tokaanu and I have personally seen them in daylight on the surface in 10 meters of water rising or chasing something. Locals in Waihi say that at night large areas of the bottom are crawling with bullheads and Ronny Anderson of the Taupo Dive Club, has even more astounding news. His night dive classes see large numbers of big bullheads, up to 2-1/2 to 3 pounds, swimming around in front of Manuels and also at Acacia Bay. Bullheads of this size would have no trouble devouring koura, smelt or bullies.



Brown Bullhead Catfish are already well established in Lake Taupo

The bullhead catfish has been in New Zealand waters for over 100 years but only recently has it turned up in Taupo. Many feel that it was maliciously introduced. There was quite a stir a few years back when certain coarse fishing enthusiasts were arrested for smuggling in and stocking trash fish from overseas. I'm sure there will always be individuals around with this sort of destructive intent and this is even more reason to keep large, predatory, exotic species out of the country and out of the hands of such individuals.

It's easy to see how such seemingly insignificant little critters can have such a devastating effect. Like most tourists, I came to this country to experience its clean environment and friendly people. After 10 years of residence here, I see the tourist industry as the one really clean, viable resource available to us all. I'm sure I'm somewhat biased, but I also see our great fishing as a big part of the tourist attraction. So many overseas countries have such incredible pollution and will have for years to come, encouraging people to journey thousands of miles at great expense just to have a breather down here.

It doesn't make sense to risk all the good that trout fishing brings to so many people, just to find out if catfish farming might earn a few bucks for a relatively few people. An article I read recently implies that the same company that wants to try its hand at catfish farming has not done too well at another venture, oyster farming. Fortunately for us all, they didn't have to import large exotic predator oysters to find that out.

The final verdict is still being considered and we can only hope that common sense will prevail and that the government will get rid of the channel catfish. The entire episode demonstrates how important it is for everyone concerned about these issues to take an active role in safeguarding and enhancing our environment.

3 TONGARIRO/TAUPO CONSERVANCY

AUTUMN HUNTING SUMMARY : 1990

The February-May permit period is the peak of hunting pressure in the central North Island. This year was no exception with 3116 individual hunters obtaining a permit for the Conservancy's DOC estate. The private land in the Kaimanawa- Kaweka-Ahimanawa area also seemed to attract large numbers of hunters again this year, showing just how important a resource the sika herd is to New Zealand hunters. The usual contingent of Australian hunters utilised the area this roar along with hunters from America and Europe, giving an indication of the international standing of New Zealand sika.

Roaring activity appears to have been rather spasmodic again this year with Umukarikari red stags in full voice on 6 April, Tongariro Forest reds going best the four days prior to Easter and the sika hitting full volume during the last 10 days of April. The earliest sika roars were reported from the Kiko Road area on 30 March while one red stag was still going on the Waipakihi tops on 15 May. With the mild weather experienced over most of April it appears to have been one of those roars when "You should have been here yesterday"

A total of 601 hunting diary returns went into the prize draw on 26 June representing 20% of the total number of permits issued. This is an extremely disappointing response, although the returns are still coming in.

Collation of the diary data shows a slight decline in the harvest compared to last year with 2386 days hunting resulting in a total of 601 kills (236 sika, 221 red, 122 goats, 22 pigs). Approximately 45% of hunters recorded at least one kill while 14% of hunters returned their diaries "No hunting done".

The 80 deer jaws provided from the Kaimanawa RHA over the February to May period supported the hint in the autumn harvest data of a slight decline in animal numbers in the area. The age structure of the sample, while showing similar trends to previous years with an older portion of the population being harvested through the roar, this year showed a very marked tendency towards the older breeding animals in the population. Harvesting of these older age classes, however, had a positive effect for trophy hunters. The jaw sample included 11 eight point sika stags mainly from the Hinemaiaia and Clements Road blocks, and a nine point sika stag taken in Jap Creek. One young stag carried eight points on a head that scored 172 Douglas score at only 40 months of age showing the immense potential this herd has - if only these stags were allowed to reach the 6-8 year old age class! The Tiraki Stream area also produced some good heads including a nine point Sika stag.

Forty two jaws were provided by hunters from the Tongariro herds. Some of the heads taken from Tongariro Forest showed why this herd has a reputation for producing some of the finest red heads in the country today. However, Tongariro- National Park did not produce any heads of notable size as far as is known.
Winners of the diary prize draw are as follows:

Air transport with Heli-Sika: T Grant, Turangi
Air transport with Lakeland Helicopters: F Hickey, Rotorua
Air transport with Turangi Scenic Flights: R A Jones, Hamilton
Sporting goods to the value of $100 from "The Fly and Gun Shop": R Rataruhi, National Park
Weekend accommodation for four at Sika Lodge: K Harrison, Hamilton
plus 10 hunters will receive complimentary copies of this issue of "Target Taupo". Thanks to all hunters who provided diaries.

Table I summarises the hunting effort over the Conservancy for the February-May period. Table II summarises departmental control operations.

This fine 8-point sika stag, taken in the upper Rangitikei in April 1989 was only four years old. The trophy potential of such animals if left to mature (6-8 years) is immense.

TABLE 1
TONGARIRO/TAUPO CONSERVANCY HUTNING SUMMARY
FEBRUARY-MAY 1990

*(1989 figures)

AREA	BLOCK	DAYS HUNTED	ENCOUNTERS				KILLS				DAYS/ ENCOUNTER	DAYS/ KILL
			SIKA	RED	PIG	GOAT	SIKA	RED	PIG	GOAT		
KAIMANAWA RECREATIONAL HUNTING AREA	Clements	402.5	309	11	1	1	66				1.3	6.0
	Hinemaiaia	44.0	79	1	4		9				0.5	4.8
	Cascade	73.0	82	14			12	1			0.8	5.6
	Kaipo	43.5	69	6			10				0.6	4.3
	Oamaru	89.5	82				15				1.1	6.0
	Tikitiki	22.5	25				4				0.9	5.6
	Te Iringa	12.0	14								0.9	-
	Jap Creek	4.0	3				1				1.3	4.0
	Upper Oamaru	11.0	5	2							1.6	-
	ALL	734.5	697	35	5	1	110	2			1.0	6.6 *(5.5)
KAIMANAWA FOREST PARK (excluding RHA)	Waipakihi	210.5	98	56			21	22			1.4	4.9
	Desert Road	25.0	12				2				2.0	12.5
	Access 10	15.5	3	15	1			2	1		1.1	5.2
	Umukarikari	37.5	4	28			1	12			1.2	2.9
	Mount Urchin	3.5	2	2							0.9	-
	Waiohaka/ Whitikau	37.0	11	14	23		4	5	9		0.8	2.0
	Waimarino	36.0	23	6			4	4			1.2	4.5
	Kiko Road	72.0	31	7			9	1			2.0	7.2
	Tauranga-Taupo	48.5	43	16			12	2			0.8	3.5
	Tiraki	106.0	78	9			7	2			1.2	11.8
	Rangitikei	75.0	23	50			4	13			1.0	4.4
	Ecology	28.0	19	15			2				0.8	-
	Ngarururoro	12.0	18	2			4	1			0.6	2.4
	ALL	737.0	379	232	24		75	67	10		1.2	4.8 *(4.8)
TONGARIRO NATIONAL PARK	Rangataua	33.5	2	36	1		1	12			0.9	2.6
	Ohakune	79.0	7	45			2	20			1.5	3.6
	Southwest	83.5	1	50	1			17			1.6	4.9
	Hauhangatahi	40.0		22				2			1.8	-
	Whakapapa	24.0		28				9			0.9	2.7
	Pihanga/Tihoi	6.0		11	2			4			0.5	1.5
	Desert Road	22.0	7	11			2	3			1.2	4.4
	ALL	394.0	18	241	4		7	83			1.5	4.4
TONGARIRO FOREST (SF42)	ALL	125.0		116	7	146		35	7	45	(Deer & Pig Only) 1.0	3.0
ERUA FOREST (SF97)	ALL	33.5		22	2	123		8	1	67	(Deer & Pig Only) 1.4	3.7
RANGITAIKI FOREST (SF70)	ALL	59.5	24	11				9	2		1.7	5.5
LAKESHORE RESERVES	ALL	59.5			4					3	1.3	1.7
UNSPECIFIED RETURNS	Whole Conservancy	315.0					31	31	1	18	(Deer & Pig Only)	5.0
TOTALS	Whole Conservancy	2419.0					239	230	22	130	(Deer & Pig Only) -	4.0

TABLE II : Departmental Hunting - February-May 1990

Area Hunted	Hunter days	Helicopter Hrs (Hughes 300)	Kills Goats	Kills Other
Aratiatia	1		10	-
Pukawa	-	1/2 hr	1	-
Whakaipo Bay	1		4	-
Kuratau	1	1/2 hr	5	-
Waiotaka	-	1/2 hr	7	-
Tirohanga	3		10	-
Tongariro-NP (Ohakune)	8		6	-
TOTALS	14	1.5 hours	43	-

4 SOMETHING FISHY

FISHERY SURVEY - WAIPAKIHI RIVER

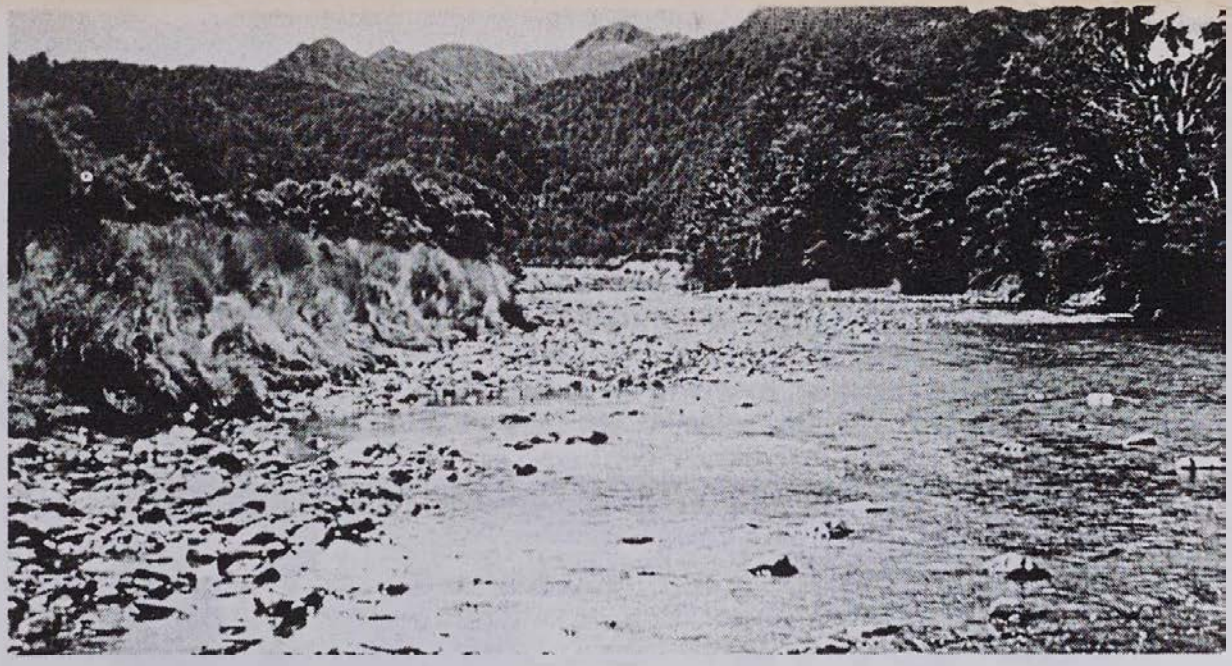
The Waipakihi River is the principal headwater tributary of the Tongariro and from casual observation, appears as if it should be an excellent trout fishery. The river flows through a picturesque valley within the Kaimanawa Forest Park and under normal conditions, the water is crystal clear.

The Waipakihi looks like an ideal angling proposition with its rapids, runs and pools and with the relative solitude afforded by the valley. Anglers who visit the river however, typically return with tales of woe which generally relate to a lack of fish or the small size of the fish if they are lucky enough to encounter some. From time to time in the past, fishery managers have been approached by people wishing to have trout liberated in the river in the belief that low natural productivity is the reason for the poor fishing.

In April of this year, the fisheries management team undertook an extensive survey of the river and its tributaries. The survey was designed to locate all species of fish present in the catchment as well as determining key habitat features. The survey used a combination of visual observation and measurement (habitat parameters), fish observation through drift diving (mainstream) and electro-fishing (tributaries) to determine species presence and abundance. Some 15km of the river was walked (the upper section being too shallow to dive), 13km was drift dived and 10 sites covering 8 tributaries were electro-fished.

Some interesting information emerged from the survey. Rainbow trout were the only species of fish encountered. There were very few fish present in the mainstem Waipakihi and all fish sighted were small (i.e. sub legal limit). The tributaries contained large numbers of small rainbows (around 110mm) and most of these fish were mature with a significant percentage having previously spawned. Fry less than 1 year old were also found in the tributaries. Aquatic insects were abundant in the tributaries but sparse in the mainstem. It is clear from observation that the Waipakihi river bed sustains major disruption during significant flood events. The gravel substrate is unstable and prone to shifting during high flows. On the other hand, the smaller inflowing streams have typically stable beds (cobbles and boulders) and well vegetated banks. It is considered that these features combined are the most important reason for the type of fishery that occurs in the catchment. Poor insect populations and low fish numbers are typical of unstable river beds.

The absence of native fish, particularly in the tributaries, was noteworthy but not unexpected. The habitat is unsuitable for bully species. Most galaxiid species (whitebait, "native trout") need to go to sea and return again and are therefore excluded from the Taupo catchment by the Waikato hydro dams and the Huka Falls. Koaro is the only galaxiid present in the Taupo catchment and although these fish are common in the lower Tongariro, it is likely that the Waikato Falls and Tree Trunk Gorge have always excluded them from the Waipakihi. The construction of the Poutu intake and Rangipo Dam has added to these natural obstacles. Eels are not present in the Taupo catchment, again because of the obstacles to their natural migrations.



The picturesque Waipakihi River looks to be the perfect trout stream, but in fact holds very few large trout.

The consequence of all of this for angling is that the Waipakihi is never likely to be a fishery of note because of the unstable nature of the river bed. Significant production of juvenile trout occurs in the tributaries but the habitat in the mainstem does not allow the fish to remain and grow into worthwhile specimens. Therefore the liberation of further fish in the system cannot improve the situation.

NEW NAME FOR RAINBOW TROUT

Details in the following are derived from an article by Bob McDowall in the Autumn '89 issue of "Freshwater Catch".

Some readers may have noticed that in recent fisheries publications, the scientific reference for rainbow trout is given as Oncorhynchus mykiss instead of the more customary Salmo gairdneril. Bob McDowall in his article writes, "For decades there has been discussion about whether the trout of western North America (rainbow, cut-throat, etc.) are more closely related to the trouts and salmon of Europe (brown trout - Salmo trutta, Atlantic salmon - S.salar, etc.) or to the Pacific salmons of western North America and the northern Pacific Ocean (genus Oncorhynchus). The view that the rainbow trout is closer to the pacific salmons than to European trouts is not new and now has wide acceptance. With the shift of the rainbow trout from Salmo to Oncorhynchus, the step has been taken to have the scientific names reflect these relationships".

The second part of the name comes from the recognition that the Kamchatka trout (from Siberia) and rainbow trout are the same species. Historically, Kamchatka was named first as Salmo mykiss and the rules of nomenclature dictate that the oldest name should be used. Therefore the scientific name for rainbow trout has now become Oncorhynchus mykiss.

NEW ANGLING INFORMATION SIGNS

Angling information signs have now been erected at strategic access points on the six main rivers between Taupo and Turangi.

A total of 19 signs are in place showing access roads and tracks, pool names, bridges, closed waters, restricted season limits, etc.

These signs are designed to help the local anglers but as a bonus they will also give the visiting anglers more information on the river they are fishing.

For those anglers who are not yet aware of it, the access road on the true right hand margin of the Tauranga-Taupo River is now controlled by the Maori land owners. Access permits can be purchased from the Te Rangi-Ita Store.

Fisheries enhancement staff Inspect the new angling sign near the mouth of the Waitahanui

CHANGES TO TAUPO FISHING REGULATIONS

There are a number of changes to the Taupo Fishing Regulations for the new season starting on 1 July 1990.

While many of the changes are minor and of a housekeeping nature, there are several significant new provisions with which all trout anglers and fishery users should become familiar.

Fishing licence fees have increased on average by the amount of last year's consumer price index of 7.2 percent. An adult season licence is now $2.00 inclusive of GST. The revenue from licences and associated fees is the sole source of funds for the management and protection of the Taupo fishery.

Other major changes to the regulations are:

- A reduction in the maximum hook size that may be used for weighted flies in fly fishing only waters, to 17mm long and 5.5mm gap. This is roughly equivalent to a size 10 hook although different brands and styles of nominal size 10 hooks may have different dimensions.

- Strike indicators used in fly fishing waters must be natural or synthetic yarn only. This precludes the use of indicators made of foam, plastic, cork or other material that were previously employed.

- Set rods and rod holders may now be freely used by boat anglers, provided all occupants of the boat have fishing licences. The person driving or in charge of the boat is responsible for ensuring this requirement is met.

- The regulations now specify that the person in charge of a commercial vessel is responsible for ensuring that all people fishing from the boat have current licences.

-Other changes clarify the existing prohibitions on fishing during the closed season, using downriggers and falsifying information on fishing licences.

- The control and permitting of fishing competitions now comes directly under the Taupo regulations, rather than the Fisheries Act as previously.

All these changes have the approval of the Central North Island Wildlife Conservancy Council and its Taupo Ward. Many of them resulted from submissions made by this group of angling representatives.

In a move to provide clearer information for anglers, DOC has re-designed the fishing licence for the new season. A colour- coded map shows fishing season restrictions and the district boundary. The main regulation changes are highlighted on the front of the licence and whole season licences are printed on tear-proof, waterproof paper. By using more durable paper it is hoped to lessen the number of replacement licences issued each year. It is amazing how many licences go through washing machines or get soaked and tattered in fishing vests and tackle boxes.

The colourful new design, featuring a photograph by local angler, writer and photographer John Parsons, should also make the new licences attractive souvenirs for the 45,000 visiting anglers who fish at Taupo each year.

In an effort to make the licence distribution system even more effective, DOC has recently had discussions with local licence selling agents. As a result it has been decided to increase the agents' commission by 50% over the previous rate.

All anglers should familiarise themselves with the new regulations. Full details are available from licence agents and any further enquiries can be answered by fisheries staff at the DOC conservancy office in Turangi.

CONSERVATION LAW REFORM ACT

The CLR Act became law on 10 April. It has major implications for fish and game management in New Zealand.

In future, the management of fish and game will be the responsibility of elected regional councils. The one exception to this will be the Taupo fishery which will continue to be managed by DOC.

Fishery users will have input through an advisory committee comprising representatives of the Taupo Fishing Club, Waitahanui Anglers' Association, TALTAC and the local branches of Trout Unlimited and the Professional Fishing Guides Association. There will also be one member representing national angling interests.

The Eastern Fish and Game Council will cover the former Tauranga Acclimatisation Society district, and the Rotorua and Gisborne/Wairoa Wards of the former Central North Island Widlife Conservancy Council. EFGC will also be responsible for gamebird management in the old Taupo Ward area. The Waimarino Ward becomes part of the Taranaki Fish and Game Council.

5 COMPLIANCE AND ENFORCEMENT

A comment from Sid Puia, Senior Compliance Officer, Tongariro/Taupo

When considering what Compliance and Enforcement is, I have often wondered how the two should be explained.

In doing so, I have considered a number of explanations and choose the following as the most appropriate.

Compliance in my opinion is what the public does, e.g. obtaining fishing licences and hunting permits. This can be summed up as encouraging consent holders to act in accordance with the conditions of the consent.
An important aspect of compliance is the ability to impose, monitor and enforce appropriate and consistent conditions.

Enforcement on the other hand is what the department does, with emphasis on having effective and consistent statutory powers and the resources available to use such powers when required. Without adequate enforcement, compliance is likely to be inconsistent.

Is there a difference? In simple terms the answer is "Yes".

Compliance is something the public does - DOC merely facilitates and fosters it.

Enforcement is what the department does when all means of facilitation, education, prevention and consultation have failed.

Invariably there may be a complex mix of compliance and enforcement complementing each other, but not at the expense of equal application of the law.

Compliance and enforcement is a sensitive issue. For some it may be seen as a total waste of time and for others, a necessary evil. Perhaps there is a measure of truth in both.

The Compliance and Enforcement Section has a total of four officers, three stationed in Turangi and one in Taupo.

Wayne Boness is the newly appointed officer for Taupo who will take up his duties on 9 July.

Again, it's the time of the year when some of our fishing waters are closed to protect spawning trout. Unfortunately it also heralds a noted increase of poaching.
Whether it be fishing, gamebirds, protected species, etc., information about illicit activities is only of use when passed on immediately.

Please contact compliance staff:

Wayne Boness, Taupo - Phone: Work 85450
Dan Delaney, Turangi - Phone: Work 68607, Home 68305
Brian Taylor, Turangi - Phone: Work 68607, Home 66549
Sid Pula, Turangi - Phone: Work 68607, Home 66700
or Conservancy Duties Officer, 68607 after hours.

We are presently reviewing our Honorary Ranger system with a view to providing a more effective and efficient service. This should provide a basis for feedback, whereby holders of warrants report back more frequently than is required at the present time.

6 BITZ 'N' PIECES

1080 - WEST TAUPO

In May this year, 43,000ha of land west of Lake Taupo was treated with cereal pellet baits impregnated with 1080 poison.

The drop was part of ongoing work to control bovine tuberculosis and was aimed at reducing possum numbers in the area.

Possum carcasses remain toxic to dogs for several months after such a poison drop so dogs have not been permitted in the Western Bays reserves for pig hunting this winter.

The impacts of this type of possum control on pig populations are not well understood, however past evidence would suggest that while there is some effect, large scale reduction in the population is unlikely.

Stalking or spotlighting pigs along the farm edges of the reserves is a productive means of pig hunting without dogs in the area. As winter frosts reduce food supplies pigs begin to spend more time on the farm land and several farmers complain each winter of pig damage to both fences and pasture.

Hunters are reminded that the land owners' permission is required before entering or crossing private land. Failure to gain this permission will reduce the likelihood of access for everyone in the future.

ADDITIONAL HELIPADS, KAIMANAWA FOREST PARK

The designation of four additional helipads for hunter access to Kaimanawa Forest Park this year has had mixed effects.

Aerial access was permitted on a trial basis between 20 March and 20 May this year into four catchments to which foot access is difficult due to neighbouring land tenure and/or the nature of the terrain. The sites were located in the Tiraki, Waimarino, Waiotaka and Whitikau Streams.

A total of 38 hunters utilised these sites and from the information received to date some 18 deer and two pigs have been recorded as killed.

The new sites appear to have had some effect on reducing the number of hunters who fly to other parts of the park and to neighbouring Kaweka Forest Park in the sense that had these 38 hunters not flown to the new sites, they would have added to the number of hunters at more traditional sites. Hunter numbers were generally very high in the Kaimanawa-Kaweka area again this roar.

The human impact of aerial access on the four sites was mixed. Acceptable impact occurred at the Tiraki and Waiotaka sites while the Waimarino site was immaculate and a credit to the parties that used it. The Whitikau site was a disgrace with beer cans, plastic, deer carcasses and other litter left to be scattered by the local pig population. A large bivi was also constructed.

Helicopter access to Kaimanawa Forest Park is one of the major issues currently under review in the Draft Management Plan released in March as helicopters have become an important part of recreational hunting in the central North Island. The present restrictive policies governing helicopter access however, are in part, a result of the negligent attitudes of some who use it. The future of less restrictive policies relies on improved attitudes towards environmental impacts and consideration of other park users. These other users include hunters gaining access on foot and those not necessarily hunting, who seek refuge from all that is modern.

KAIMANAWA FOREST PARK DRAFT MANAGEMENT PLAN

The Kaimanawa Forest Park Draft Management Plan was released for public comment during March. Submissions closed on 14 May and those received are currently being summarised and analysed by local Department of Conservation staff.

Some 24 public submissions were received from organisations and individuals. The majority of the submissions were received from tramping clubs with a disappointingly low number coming from hunting organisations.

The submissions were discussed by the Kaimanawa-Kaweka Forest Park Advisory Committee at its final meeting in mid-June and comments from this group and the soon-to-be-appointed new Conservation Board for the Tongariro-Taupo Conservancy will also have an input to the new management plan for the Park.

1990 PUREORA HUNTING COMPETITION

Over the last three years during each roar, the Department of Conservation, with the support of local branches of the NZ Deerstalkers' Association and sponsors, has held a hunting competition with all stags taken from within Pureora Forest Park being eligible for entry.

As with those of the past years, this competition proved to be extremely successful with some 150 plus people coming along on the day of the prize giving. In total, 58 heads were presented for judging and this is the highest number of entries to date. These heads ranged from small 4 to 6 pointers, through to some fairly impressive 10s and 12s.

The winning head this year was a 12 pointer with a Douglas score of 247. This stag was taken on the slopes of Mount Titiraupenga by R Minto of Mangakino.

At the other end of the scale the prize for the ugliest head went to Tim Stewart of Te Awamutu with C Rawlandson taking out the prize for the smallest head. While the quality of the top heads was a little down in terms of Douglas score on previous years, the overall quality of the heads on display was markedly higher. There were quite a number of very large 8 and 10 pointers with Douglas scores in excess of 200. These were quite young animals and this bodes well for the future trophy potential of the herd.

A point to ponder : the stag that won this year's competition was apparently not holding any hinds when it was shot and showed definite signs of having been involved in a fight. It makes you wonder a little just how big the stag was that gave this big 12 a good hiding!!!!

TONGARIRO FOREST GOAT SHOOT

In August 1989 the Taumarunui Rod, Rifle and Gun Club undertook an organised goat shoot in Tongariro Forest in an attempt to show that recreational hunters could be effective in controlling animal numbers. The weekend was so successful that it is to become an annual event. Last year over 200 goats were destroyed and this year it is hoped that the tally will be even higher.

The Department of Conservation is supporting the operation with a small amount of helicopter ferry time and some aerial shooting of the more difficult country. It is hoped that the combined efforts of organised ground parties and helicopter will allow for cost effective control of the large and ever-increasing feral goat herds which inhabit the area.

Hunters wishing to participate in the weekend shoot and associated social events should contact:

The Secretary
Taumarunui Rod, Rifle and Gun Club
PO Box 33
TAUMARUNUI

7 TONGARIRO NATIONAL TROUT CENTRE

An article by Errol Cudby, Manager, National Trout Centre

Nestled on a bush-covered river flat next to the Tongariro River, five kilometres south of Turangi, the Tongariro National Trout Centre has, for the past 60 years, served a primary role as a trout hatchery and a secondary role as a visitor attraction. Now big changes are in the wind which could see these roles reversed.

The centre began its career in 1926 as an egg collecting station and became famed for supplying millions of trout eggs to fisheries all over the world. In 1974 it was upgraded and raceways were installed which enabled up to 120,000 fingerlings to be raised for distribution throughout New Zealand. Now there is less demand for its products. User-pay policies have caused sports fishery managers to look carefully at their cheque books before spending their angling licence dollars and they are either not spending or finding cheaper alternatives, such as egg implants.

Faced with being left holding the bathwater, Department of Conservation (DOC) managers had to decide whether or not they could keep putting babies into it at their own expense and the answer was 'no'. But they could neither afford to close up nor lose such an asset, its value as a showpiece for the Taupo fishery and as a venue for ecological education is too great.

A solution which would ensure the future viability of the Trout Centre was seen in developing its potential as a visitor attraction and in providing services and activities which people might pay for. Services and activities which would increase people's understanding of the fishery, of sports fishing and enhance their conservation awareness; which would satisfy the needs of tourists as well as those wanting a more 'hands on' experience.

A group of businessmen, the Turangi Lions, with admirable foresight had installed a very popular attraction in the early 1980s. The underwater viewing chamber and display room feature static displays and a fishes-eye view into the hatchery stream. It was opened in 1983 to coincide with centennial ceremonies marking the introduction of rainbow trout to New Zealand.

The huge success of the Lions' viewing chamber and the kids fishing pond, which was opened at the same time, both gratified the clubs involved - Tongariro and Lake Taupo Angling Club (TALTAC) volunteers run the kids fishing days - and encouraged more community involvement to take development further.

A trust committee, representing local service clubs, angling organisations and government departments, was set up to install another attraction; an angling museum. This project was at the concept stage when the re-organisation of government departments began and there it languished while people came and went, systems changed and the money tree shed its leaves and crashed to the ground.

Now the Trust Committee has reformed under DOC stewardship and more than regained its former impetus. Time and change have focussed a range of skills and ideas on the future of the Tongariro National Trout Centre and a bigger and better concept has been developed which will take it into the 21st century as THE National Trout Centre. It will cater for visitor education and entertainment, while still retaining its capability of producing trout 'babies' for restocking and maintaining New Zealand sports fisheries.

For its part, DOC has taken a lead in developing a new public car park and entrance to the grounds of the Trout Centre. The car park gives more space for both cars and buses and safer access to and from State Highway One. Stone carvings mark the entrance. These depict Tane Mahuta (God of the forests), Tangaroa (God of fish and of the sea), while dividing the highway entrance is a carving which symbolises the strong, yet delicate balance between water, forests and living creatures necessary for the natural world to survive.

Guiding the visitor into the grounds and maintaining the concept of man striving to achieve a balance with nature is a magnificent rock retaining wall made from Tongariro River boulders. The wall was initiated and funded by Rotary of Turangi as a 1990 project and built by skilled locals with assistance from the Justice Department's Corrective Training Institution.
Sunday, 15 July will be a big day at the Trout Centre. At dawn, Ngati Tuwharetoa elders will bless the carving of Tangaroa. (The other two carvings carry with them the mana of their blessing at Taupo and need only to be welcomed to their new location). Tongariro MP, Noel Scott, will open the car park and the new entrance to the Centre and at a simple breakfast, a fund-raising scheme for the future development of the centre will be launched. This will lead into the third kids fishing day for 1990 when TALTAC volunteers and DOC staff will provide tuition and trout for the catching to encourage todays' and tomorrows' anglers and conservationists to both take and give and to leave the world a little better than the way they find it.

Siting rock carvings at the car park entrance

Contractors stabilising the outside edge of the car park

8 WINTER HUNTING

Once the autumn 'flush' has gone and winter snow and frosts become a regular occurrence, deer become much less mobile than at other times and hunting conditions change dramatically in the central North Island.

Because the deer are less mobile they are harder to locate and this is reflected by much lower hunter interest during winter. The accompanying graph shows an average distribution of hunting pressure through a given year for the Kaimanawa RHA. Winter is one time of the year you won't find the bush crowded!

Winter hunting can, however, be very rewarding for those who can handle the cold nights and who know where to find their game.

During the months of July, August and often September, snow falls down to 800m above sea level are common on the central North Island mountains. The influence of this snow, the cold temperatures it brings and its effects on the forest, play an important role in where deer will be living.

Deer, like people, do not like to be cold or wet, so during winter they will generally stay around the mid slope level on northerly or easterly aspects. These sheltered forest slopes catch the morning sun, especially in areas where the canopy is broken at the heads of small gullies or in windblown areas, and the deer can enjoy what little winter warmth the sun provides. Such areas are also generally sheltered from the icy blasts of southerly winds.

While snow brings cold temperatures to the mountains making life a little uncomfortable for deer, it also has a major effect on their food supply. Large dumps of snow bring good quantities of canopy and sub-canopy leaves and branches to the forest floor, often resulting in somewhat of a bonanza. Branches of summer growth which fall to the forest floor are quickly vacuumed up by hungry deer that camp just below the snow line in the bush and venture up into the snow to feed. It is not uncommon in a severe winter for Sika deer to remain in excellent condition due to an endless supply of beech, broadleaf and bush lawyer brought down from the canopy by heavy snow and wind.

To conserve energy, deer will generally not travel long distances to feed during winter and this is why they become difficult to locate. By keeping daily movement to a minimum they are able to make the most out of what nutrition is available.

So while hunting in winter, you may have to work hard to find where the deer are living, but once you find them you can expect your encounter frequency to be quite high. By concentrating your efforts on the sheltered gullies of the mid-forest slope area (800-1000m above sea level), on faces which have a northerly or northeasterly aspect you will increase your chances of finding animals. Get out just after a good snowfall also and hunt the ridges where heavy snow has brought branches to the forest floor. You may encounter a deer who is too interested in a good feed to notice you!

Suggested Areas

1 *Waipakihi Valley* - The eastern flanks of the Umukarikari range in the mid-valley area. Concentrate on the side ridges and spurs (or just off them) on north-easterly slopes at about the 1000-1100m contour.

2 *Kalpo Valley* - The north facing slopes on the southern side of the upper valley. Concentrate on the more open gullyheads at about the 1000m contour where the pepperwood starts to fade out. Deer will shelter in the pepperwood and venture up into the very open forest type to feed on broadleaf broken from the sub-canopy by snow and wind.

3 Cascade Stream - Same as for the Kalpo valley.

4 Northern Kaimanawa Forests - The lower altitude forests of the northern Kaimanawas facing Lake Taupo behind Lake Taupo Forest (altitude around 800m a.s.l.) between the Hinemaiaia and Waimarino Rivers. This area offers superb winter habitat for good numbers of deer.

OTHER TIPS

Erua and Tongariro forests in the west of the conservancy offer excellent goat hunting for those who want to sharpen their skills and get some dog tucker. Remember though, that goat meat must be thoroughly cooked before it is fed to dogs.

Ecology Stream in the headwaters of the Rangitikei River is going to be the block for 1990/91. Both sika and red deer are present in good numbers. The bush, however, makes hunting a real challenge!

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

Herwi Scheltus, Department of Conservation, Turangi

Wetland/Pond Design Building Guidelines

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

To create a successful wetland/pond the builder needs to become familiar with a wide range of opportunities and constraints.

The following will be helpful information when deciding to construct a wetland/pond.

Size - As the size of the wetland/pond increases so do the corresponding number of bird species which will use it. Greater species diversity is encouraged in wetlands which have a wide habitat type, e.g. fluctuating water tables, areas of open water, shallow and deep areas, grazed and rank pasture areas, and heavily wooded areas. Research has shown that a 50:50 ratio of well interspersed plants and water achieves maximum bird numbers.

Shape - Boundaries between habitat types support a greater diversity of wildlife than the habitat on either side. This is commonly known as the edge effect. You should therefore design your wetland with a maximum length of edge possible. A more circular shape is preferable to a long narrow strip (to minimise effects of surrounding land use) and the edge length may be increased by the creation of bays and islands, see figure 1.

Buffer Zones - Wetlands are dependent on the management of the adjacent land and hence buffer zones are necessary to protect the wetland from detrimental land uses adjacent. These buffer zones provide impediments to the nutrient and sediment flow and in some cases noise abatement.

Shoreline - Waterfowl territory is determined by sight. The more irregular the shoreline the more waterfowl will be catered for, i.e. make maximum use of islands, bays and spits.

Depth - Wetlands with swampy margins have greater value for wildlife habitat than deeper water. The deeper water is still necessary to provide diversity. Slope - A gently sloping shore and bank will allow easy access for walking and feeding.

Location of Wetlands - Wetlands look best if they are constructed in areas where water would tend to collect naturally, e.g. swampy basins or low lying areas of flat pasture. You can exploit the poor drainage of the soil and sealing of the bottom will be easy. Dams are best constructed in water courses where they appear as though they are natural extensions of the surrounding landform.

There are three basic ways of constructing a wetland area.

a Excavation of a basin in an area where the water table is close to the ground surface. This relies on groundwater and/or runoff from the adjacent land for its water supply. These may be constructed by blasting but are more commonly built by excavator or dragline. Excavated material such as topsoil can be used to create islands.

Waterproofing of the excavated area can be achieved by lining with manmade materials (such as PVC, polythene or butanol) or natural materials such as bentonite clays and brown ash soils, see figure 2.

b Dams - new ponds and wetlands are easily constructed with earthdams across a gully. Basic guidelines are as follows:

- before altering the natural flow of water contact your Regional Council;
- your local Regional Council may also provide some engineering advice;
- choose your site well;
- choose a suitable catchment to supply minimum flow into the dam;
- make sure you have easy access to suitable material for sealing the dam, e.g. loams, clays, clay loams;
- choose a gully with a gentle gradient, this allows more water to be contained cost effectively.
- no organic material should be included in the dam fill material;
- do not construct dams where rockshelf or papa outcrop occurs. It is hard to get a good seal between the fill interface and rock/papa;
- where possible use fill material from the area to be impounded - don't use peaty material;
- get quotes from earthworks firms for excavation and construction. Typical costs are $50-80/hour excavator and $40-70/hour bulldozer. You will also need to pay topsoil costs.
- As there is a tremendous force on the dam face from the impounded water it must be constructed on a firm foundation, see diagram 3.
- Provide a spillway for normal overflow and during periods of heavy rain. Make sure the spillway does not erode - use culverts or timber.

- Place spillway on adjacent undisturbed ground, i.e. at either end of the dam.
- Provide an energy dissipater, e.g. rock rip rap at the outflow of the spillway. - Establish a pasture sward on the dam embankment. 100mm of topsoil over the dam face helps establishment of grass species. Do not establish trees on your dam. The root structure could cause your dam to fail.
- Do not allow extremely large expanses of water exposed to the prevailing wind. Wave lap erosion can cause serious stability problems.

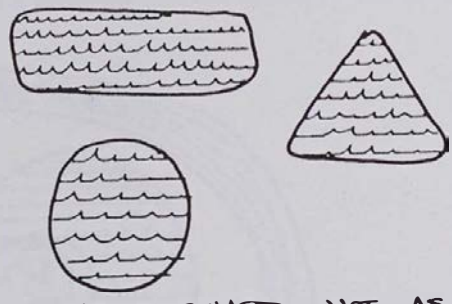
c Excavation of an off-stream impoundment - this method creates a basin away from the watercourse to which the water is directed. The impoundment is excavated and drains dug to allow the entry of water from the primary water supply, i.e. the stream.

- off-stream impoundments are generally more expensive to construct than on-stream ones;
- they are easily constructed on flat sites;
- they are cost effective for the amount of material excavated in relation to storage capacity;
- excavated material can be used to create islands and stopbanks;
- discharge capacity must be greater than inlet capacity, see figure 4.

The foregoing information has drawn freely from "Wetlands in the Agricultural Landscape" by S J Smale, 1983. A dissertation in partial fulfilment of the requirements for a Diploma in Landscape Architecture, Lincoln College.

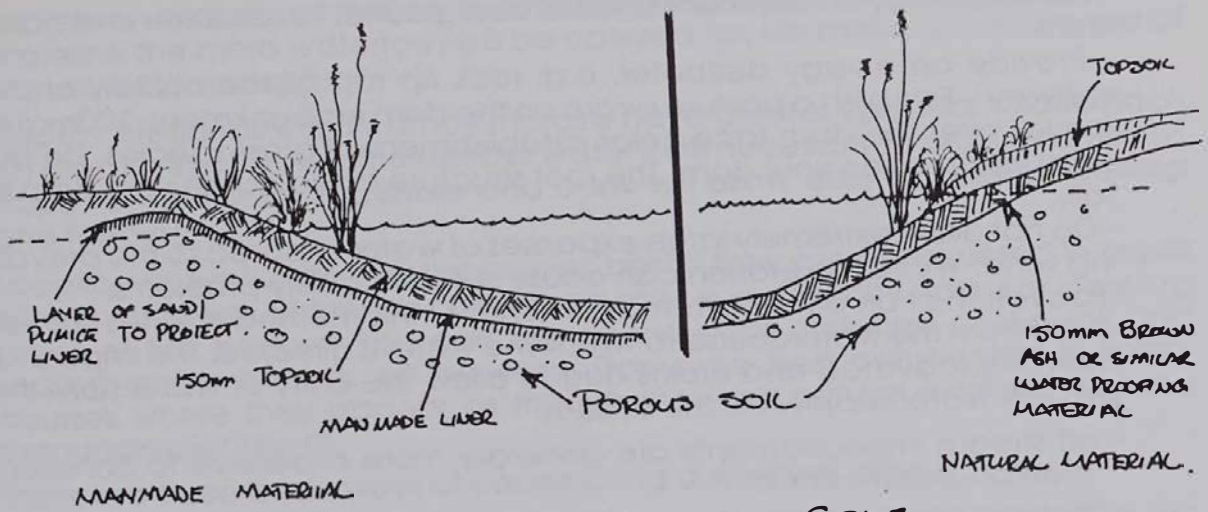
The next in this series will look at planting design and plant species and their attributes as well as their establishment and location.

THIS SHAPE BETTER BECAUSE IT GIVES A MAXIMUM LENGTH OF EDGE. ISLANDS HELP CONSIDERABLY.

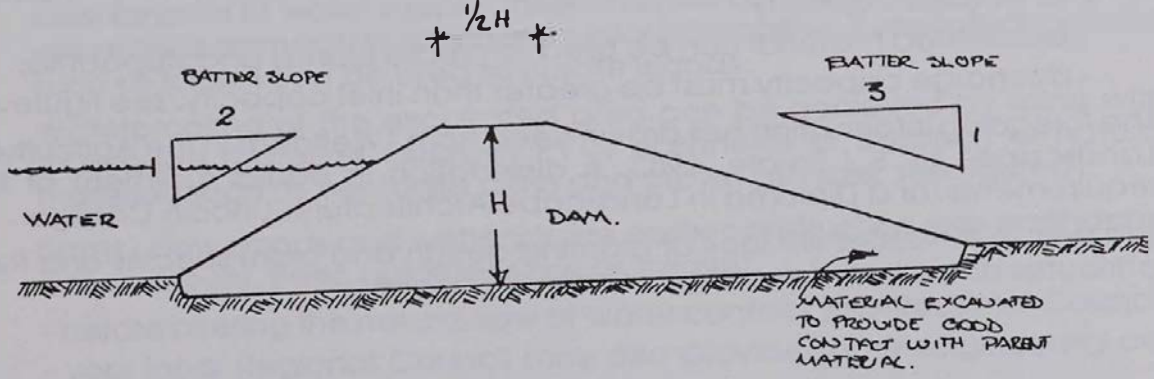


THESE SHAPES NOT AS EFFECIENT & APPROPIATE.

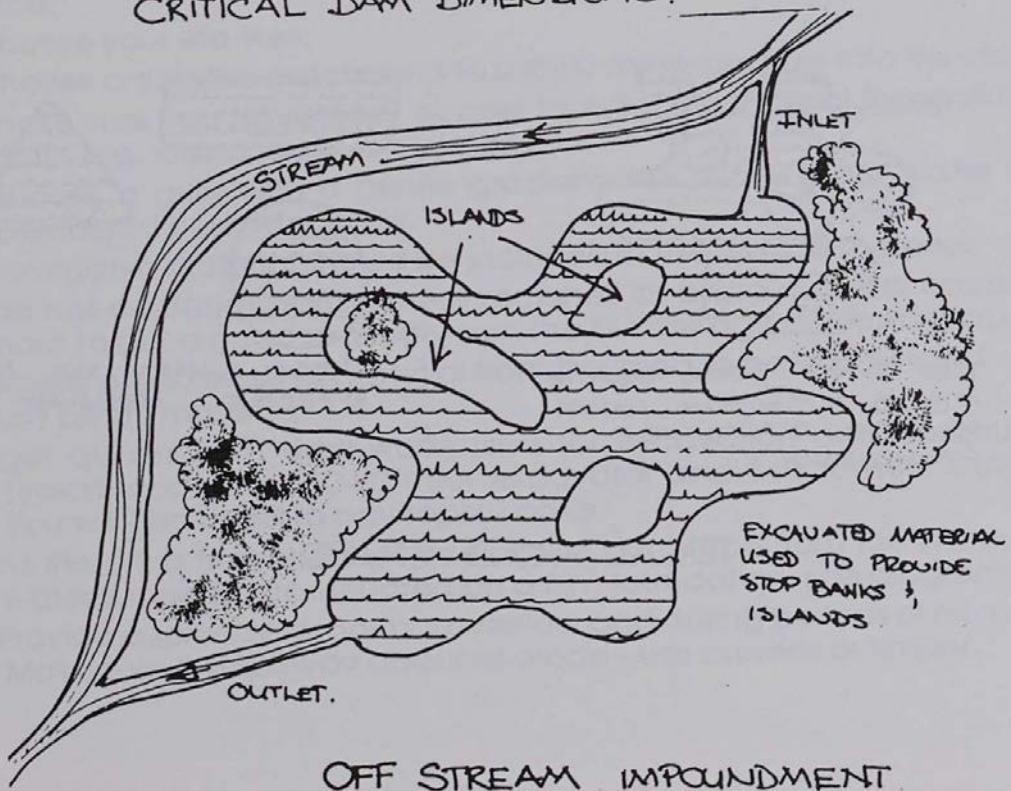
"IDEAL" POND SHAPE.



SEALING POROUS SOILS



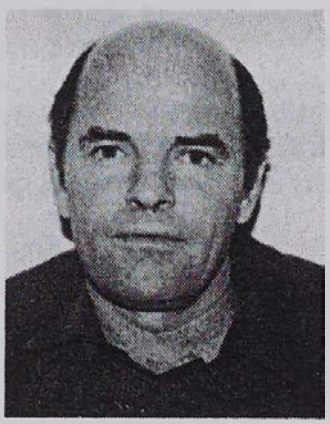
CRITICAL DAM DIMENSIONS.



OFF STREAM IMPOUNDMENT

10 MANAGER PROFILE

Ach Aye the Nooo Jimmy



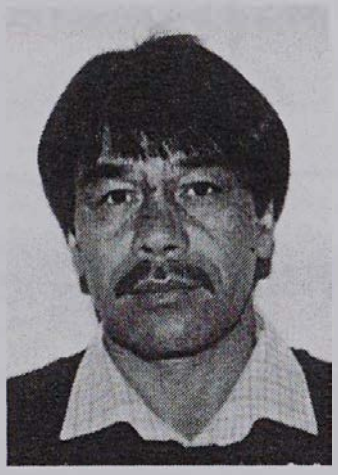
Rob McLay has recently arrived back after a three year stint managing fish and wildlife with the Department in the South Island. Prior to that, Rob spent 9 years based in Turangi with the Wildlife Service, working on the management of fish populations in the central North Island with emphasis on the Taupo trout fishery.

Rob's current role in the Conservancy is as a Fisheries Planner. He is responsible for the development of annual work programmes as well as forward planning for the longer term through the establishment of management strategies and plans. He will also be assisting the fish management team across the range of day to day duties.

Rob lists his hobbies as fly fishing, hunting, pigeon racing and trying to play the guitar.

Rob has taken over editorial responsibility for "Target Taupo" while Glenn Maclean is overseas for 8 months.

Sid Pula is a graduate of Auckland University with a BA in Anthropology and an LLB. He attended Singapore Technical Institute gaining a Diploma in Management and Leadership. He also has a partial qualification for a Diploma in Public Relations and Foreign Studies.



Sid has undertaken extensive service overseas with the Armed Forces, with active service In Malaya, Borneo, South Vietnam and as a Monitoring Force member In Rhodesia, now Zimbabwe. He spent 11 years as a member of the NZ Special Air Service. Sid Joined the Public Service In 1984 with the NZ Wlidiife Service as a Investigations Officer. He has been with the Department of Conservation since 1987 as a member of the Species Protection Unit, leading the unit from 1988 till its formal disestablishment on 20 April 1990.

Sid lists his sporting and hobby Interests as parachuting, hunting, fishing, squash, tennis, running, rugby, basketball, boxing, Maori and classical music with a slight bias towards Guns 'n Roses. He has a coaching ticket for squash, tennis, rugby and basketball.

Sid has taken up the appointment of Senior Compliance Officer with a view to promoting and enhancing a new approach to managing, advising and undertaking a new philosophy to law compliance and enforcement within the Conservancy. He is a New Zealand Maori of full blood and belongs to the Te Aitanga- A-Mahakl tribe of Turanganui-A-Kiwa. His affiliations are Rongo-whakaata, Ngai Tamanuhlrl, Ngati-Kahunguhungu, Te Whanau- A-Apanul, Tuhoe and Te Arawa.

Enga iwi, enga reo, enga mana Tena koutou, tena koutou, tena koutou katoa Me a tatou mate tuatini o te wa Ko te reo tenei o Te Aitanga A Mahakl O nga waka Horouta, Takitimu, Nukutere.

Apiti hona tatai hono Te hunga mate ki te hunga mate Aplti hono tatai hono, te hunga ora ki te hunga ora

Na reira Kia ora na tatou katoa

11 "TARGET TAUPO" READER QUESTIONNAIRE

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

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

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

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

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

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4 General comments:

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A complimentary copy of each issue will be sent to your club or organisation and extra copies are available at a cost of $2.25 (GST inclusive). Individuals are also welcome to purchase copies. Please complete the form below and return before 2 November 1990.

Back issues are also available.

NAME OF PERSON/
CLUB/ORGANISATION: _____

_____

POSTAL ADDRESS: _____

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Please send _____ copies of issue number _____ at a cost of $2.25 per copy. Enclosed is

the sum of $ _____ (cheque/money order).

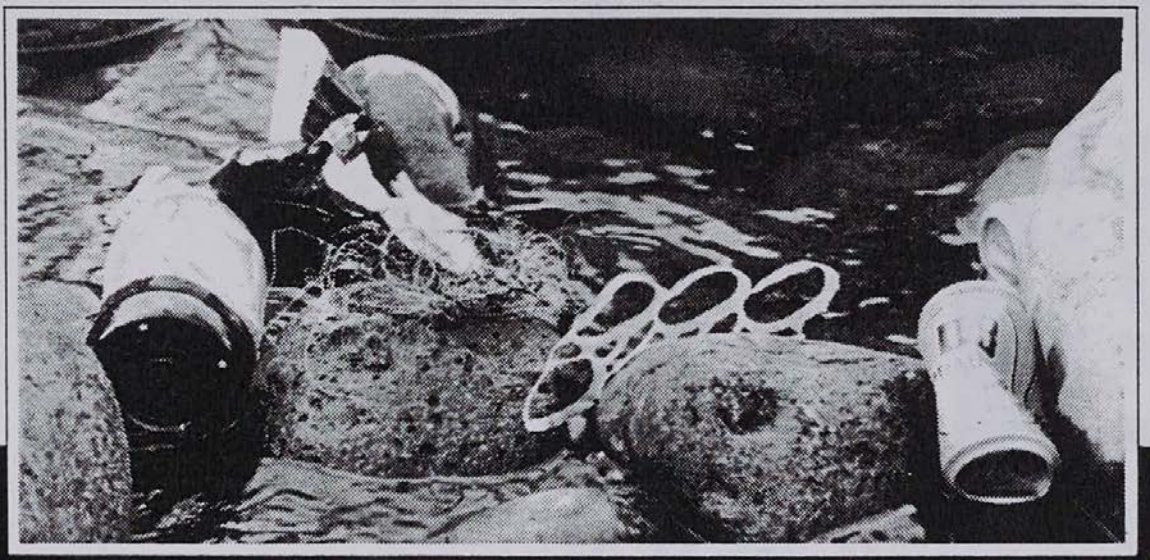
OR

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

Copies additional to the complimentary will not be forwarded until payment is received.
POST TO:

DEPARTMENT OF CONSERVATION
PRIVATE BAG
TURANGI
ATTN: SHIRLEY WEIR

IS THIS
ANYWAY TO TREAT A FRIEND?



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

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