present wall from right bank lengthened. At Titakataka Rapid, No. 23, walls from both banks to be lengthened. At Auhauaroa Rapid, No. 28, a training-wall from right bank. At Motutara Rapid, No. 35, training-walls from both banks. At Te Hinau Rapid, No. 36, training-wall required. At Taurakawa Rapid, No. 56, training-wall from left bank. At Paparoa Rapid, No. 61, the papa shelf on right bank, on outer part next channel, wants cutting down to lower level, and general improvement of channel attended to. At Kahuitara Rapid, No. 91, both training-walls to be lengthened. At Otahapa Rapid, No. 101, training-wall, and blasting of papa reef. At Otahaa Rapid, No. 108, training-wall from right bank. Also, in this part of river in sundry places boulders to be cleared out and other matters attended to. The works already done are fulfilling their requirements, and are standing well.

This season a prolonged drought occurred from the beginning of January, for fifty-two days, to the 21st February, with practically no effective rainfall, the rainfall in the lower river at Aramoho, near Wanganui, being for the month of January only 0.14 in., and from the 1st to the 21st February none at all. The following shows levels of water at Pipiriki during the latter part

of the drought :-

## Water-level at Pipiriki on River Trust Gauge.

(Zero = low summer level.)

1908.		L	1908.		
January 27	 $1\frac{1}{2}$ in. above zero.	Ī	February 9		2 in. below zero.
" 28	 1 in. "		" 10		2 in. "
" 29	 1/2 in "	1	" 11		2 in. "
,, 30	 zero.	1	,, 12	• • •	$2\frac{1}{4}$ in. "
" 31	 ½ in. below zero.		,, 13		$2\frac{1}{2}$ in. "
February 1	 2 in. above zero.		., 14		3 in. "
" 2	 1 in. "		" 15		3 <del>1</del> in. "
. 3	 zero.	į	" 16		3 <del>1</del> in. "
" 4	 1 in. below zero.	!	" 17		$3\frac{1}{4}$ in. "
" 5	 1 in. "	ĺ	" 18		3 <del>1</del> in. "
" 6	 1 <del>1</del> in. "	1	" 19		3 <del>1</del> in. "
., 7	 2 in. "		" 20		3 <del>1</del> in. "
" 8	 2 in. "	i	" 21		3 <del> i</del> in. "

This is about as low as we have known the river here, and indicates the low water occurring

in proportion all along the river-navigation.

The above table shows how very slow and gradual the fall in level of water was, and that, notwithstanding the long drought, the sources of the Wanganui River in the Tongariro-Ruapehu Range were keeping the river supplied. This is encouraging in regard to the state of the river in future. In connection with this it may be mentioned that at the time of our visit, after about thirty-seven days of the drought, we found a good run of water in the Ongarue, and also in the Retaruke and Manganui-o-te-ao Rivers, tributary to the Wanganui, but many of the smaller streams on the right bank which commonly show in waterfalls, such as the Otunui, the Otuiti, the stream at Paparoa Rapid, No. 61, and others, were practically dry, the papa-rock ledges, over which the falls generally show, seeming to be merely damp, with no run of water; and the papa reefs or ledges at the water's edge at the rapid just above Pipiriki (No. 197) and just above Tauteti (rapid No. 16) were more out of the water than our Native crew recollected seeing them.

Notwithstanding this low water, the river-steamer passenger service has been carried out with fair regularity, and this also shows the good effect of the improvement-works of the River Trust.

The question of the most suitable description of boat for the upper river is an important one, and the proprietors of the present river service are giving this matter their attention, as it is evident this is one of the chief directions in which improved navigation may be looked for.

JOHN T. STEWART, Honorary Engineer to the Wanganui River Trust.

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