

A three day trip on the Rangitikei River, Central North Island, New Zealand



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# **Thanks for Choosing River Valley!**

## **About River Valley**

Since 1982, family owned and Taihape based adventure company, River Valley, has been offering trips on the rivers of the central North Island of New Zealand. Based from River Valley Lodge, the company offers raft and inflatable kayak trips on the Rangitikei and Ngaruroro Rivers, and through Whanganui River Dories, dory trips on the Whanganui River through the Whanganui National Park. Our river trips vary from 1/2 day to 6 days in duration.

Part of the experiences River Valley also offers are horse treks with River Valley Stables. These treks, from a half day out to 7 days, explore central North Island high country. A point of difference for River Valley Stables is the emphasis on a learning experience using Natural Horse Training as well as the ride itself.

River Valley is a company that is also heavily involved in "giving back." We do this through our Stoat trapping program that is centred around the Rangitikei River at Pukeokahu. The aim of this program is to protect the and grow the native bird population.

Thanks for choosing River Valley for your trip. We look forward to being on the river with you.

#### **Guides**

The men and women who work at River Valley are fun loving, and professional, individuals. Many of them have worked for River Valley for years, and either stay and guide right through the winter, or return for each summer season. Over this time through a mixture of personal experience and formal education they gain a huge amount of knowledge about guiding and the area.

All guides carry New Zealand river guide qualifications, which are some of the most stringent in the world. These qualifications include First Aid as well the technical details of guiding boats on rivers.

Many of our guides also have a good knowledge of both the area's natural and human history, along with current environmental issues. They are also great cooks! These are the kind of people you enjoy being around–happy, helpful, thoughtful, intelligent and responsible and they love what they do!

### What is in the Trip Planning Itinerary

This Trip Planning Itinerary has been composed to help you plan and prepare for your multi day trip and to give you an overview of the area. You will receive more detailed information from orientation talks and discussions given by your guides both prior to departure and while on your trip.

Please review the following information carefully. If you have any questions or need additional assistance with your arrangements, don't hesitate to give us a call. You may also contact us by e-mail at thelodge@rivervalley.co.nz.



# **Mission and Values**

# Your goals and Our Expectations

A river trip on the beautiful rivers of the North Island of New Zealand can be a life-changing experience. We will do our best to provide you with the opportunity to have a wonderful outdoor adventure as well as a fun and relaxing holiday. Our customers are expected to exhibit appropriate behaviour while on the river trip, with regard to conservation, preservation and protection protocols. Having said that, we expect you will have a great adventure and a lot of fun!

#### Wilderness Environment

We feel strongly in preserving the character of natural wilderness. Please consciously make efforts to promote the outdoor experience for everyone on the river trip. Many people retreat to the wilderness for solitude and to get away from the noise of the city. We think you will enjoy taking time to stop, listen, and appreciate the natural sound scape. Please be respectful of other members in your party, so that they too can enjoy the natural wonders of this river trip.

#### **Environmental Ethics**

We want to do our best for the environment. On the river we try to reduce our production of rubbish. Prior to leaving for the river trip, please remove and recycle the packaging from any items such as batteries, sunscreen, soap, etc. On the river trip, we will ask you to help us recycle waste by separating paper, plastic, aluminium, and organic materials.

As part of our commitment for "responsible recreation," we make an effort to travel with minimal impact on the environment.



### Seven Principles of Ethical Outdoor Recreation:

#### 1. Plan ahead and prepare

Plan ahead by considering your goals and those of your group. Know before you go- get local information, skills and gear you need to make your trip a success.

#### 2. Travel and camp on durable ground

Some areas are more fragile than others. Choose to camp and travel on the most durable surface you can, the best ones are tracks, gravel, snow and most grasses. Impacts on fragile natural features caused by travel and camping can take many years to heal.

#### 3. Dispose of waste properly

Pack it in, pack it out. As users of the outdoors we all have a responsibility to clean up after ourselves. Rubbish and toilet waste are unsightly and can introduce unwanted organisms into the environment. Lead by example, if you see rubbish, pick it up.

#### 4. Leave what you find

People visit natural areas for many reasons; such as exploring nature's mysteries and surprises. When we leave natural objects and artifacts as we found them, we pass the gift of discovery on to those who follow. Many sites of spiritual and cultural significance to Māori are interwoven with the natural environment.

#### 5. Minimise the effects of fire

Local regulations and conditions change depending on time of year and location. Lightweight stoves, fire pans and mounds mean campfires are no longer essential for cooking or comfort. Wildfires are often caused by carelessness and the natural appearance of many recreation sites has been damaged by campfires, visual scarring and stripping vegetation for firewood.

#### 6. Respect wildlife and farm animals

Know when animals are particularly vulnerable, such as breeding times, and change your behaviour with them by observing from a distance. Avoid feeding animals either deliberately or accidentally by leaving food or rubbish lying around. Farming is a big part of New Zealand's culture and economy, know how to move through farms without disturbing farm animals.

#### 7. Be considerate of others

We all go into the outdoors for different reasons, so we must share. Think about others, respect their activities and what they might be trying to get out of their recreational experience.



# Rangitikei River Headwater Expedition

# Trip Summary

A Rangitikei River Headwater Expedition is a 4 day 3 night (on river camping) trip in the upper reaches of the Rangitikei River. During the trip we will journey through areas of native beech forest and regenerating Manuka and Kanuka. The last hour or so on the river is through farmland. Most of the rapids are Grade 2 to Grade 3.

The scenery we will encounter is stunningly beautiful.

We are unlikely to encounter any other people other than the odd fisherman.

You will spend the first night at River Valley Lodge where you will meet your guides and be equipped with your river gear. The next morning we will drive one hour to the Springvale Bridge on the Napier Taihape Road. Here we will meet a helicopter and take the 15 minute flight into our start point on the river.

Days on the river are moderate in length, varying from a couple of hours to our longest day at about 4 hours on water (excluding lunch stops and breaks).

Campsites are pretty, comfortable and great places to relax after getting off the water

The last night sees us back at River Valley Lodge for a further night's accommodation which is included in your trip.



# **Trip Itinerary**

This is a 4 day on the river and 3 night (camping) experience, plus one night at River Valley Lodge at either end of your trip.

# **Possible Itinerary**

(Note: Plans are written in the Sand and the Wind Usually Blows!)

# **Night Before**

Arrive in time for dinner at River Valley Lodge (7.00pm). Meet your guides, get kitted out with river gear and shown how to pack your dry bag.

Day 1

An exciting morning as after breakfast we pack our gear and drive 60 minutes to our helicopter pick up point. Expect to be on the water sometime around lunchtime. This is a shorter day on the river. Today we raft over crystal clear pools, numerous small rapids, and through high altitude beech forest. Camp that night at Willie's Waterfall camp near the start of "The Burn".

#### Day 2

This day is a longer day on the river - around about 4 hours on water time. We aim to start in good time and try to be on the river by 9.30am. We will run a variety of rapids, including the notorious Pinnacle Chute. The scenery on this day is spectacular and in places incredibly rugged. The peaks of the Pinnacle Range will be our companions for the morning. Camp this night is at a pretty spot above the Grade 3 Gorge.

#### Day 3

A short but action-packed day. We will run the Grade 3 gorge which incorporates a series of fun complex rapids. This section of river is not just about rapids however. The banks are cloaked in beautiful Beech forest, while the uplifted and twisted rock geology is spectacular. An early finish today meaning we have time to either relax or explore around camp.

#### Day 4

Our last day on the river. The morning starts with a succession of Grade 2+ rapids which culminates in the Boomer – the most difficult rapid on the trip. After lunch we will make our way out to our vehicle pick up on the Napier – Taihape road.

Comfortable accommodation, hot showers and dinner await us back at River Valley Lodge.

#### Day 5

After breakfast, you can either depart or join in another River Valley adventure.



# **Price of the Trip Includes**

- Accommodation at River Valley Lodge the night before departure
- Accommodation at River Valley Lodge the last night of the trip
- Delicious meals, starting with dinner the night before departure on the river
- Assorted alcoholic and non-alcoholic beverages
- Plates, cups, utensils
- Waterproof bags for clothing and personal items
- Ammo cans (if required) for photo equipment and incidentals
- Extra thick self inflating mattress
- Tents
- Nice camp chairs
- Approved lifejackets and helmets
- Wetsuits, neoprene boots and thermals if required for your trip

# **What is <b>NOT** Included

- Lodging at River Valley Lodge after the river trip
- Extra alcoholic beverages, customer preferred soft drinks or juices
- The cost of emergency evacuation and medical care beyond first-aid in an emergency, evacuation and emergency care will generally be covered by New Zealand ACC
- Guide Gratuities



# **We Provide**

# Lifejackets and Helmets

Life jackets must be worn at all times while riding on the boats. Passengers are required to wear company provided MNZ approved jackets and are not allowed to bring a personal life jacket of their own. Helmets are required on some sections of river at times, and while paddling an inflatable kayak on the Rangitikei or Ngaruroro Rivers at all times. At the pre-trip briefing guides will demonstrate how to fit your life jacket and helmet securely.

#### **Tents**

A two-person dome tent with rain fly will be provided.

### Sleep Kits

We will provide a self inflating foam pad for each participant.

#### Chairs

Collapsible chairs are available at camp

NOTE: Please notify our office in advance if you prefer to bring your own camping gear.

# Waterproof Dry Bags

Each participant will receive a large waterproof bag ("dry bag") for clothing and personal items. The bags are big and roomy and will have plenty of space for all of the clothing and gear we recommend. An identical bag contains the self inflating foam sleeping pad and tent, provided for your use during the river trip. This will be pre-packed.

#### **Ammo Cans**

You will also receive a 50-calibre ammo can. The ammo cans are accessible during the day, and so they are the best place to keep cameras, sun screen, reference materials, pens, notebooks, etc. (The dry bags are accessible, but take a little more effort to open and close.) The ammo cans are 145mm wide x 175mm high x 300mm long.

Although we make every effort to ensure the waterproof qualities of our dry bags and ammo cans, we must caution you that they are not guaranteed to be water tight under all potential conditions, especially if they are not closed properly or if they are immersed.



# **Packing List**

Just a reminder that essential on-river equipment will be supplied by River Valley. This will include a Life jacket and on some river sections a helmet. In cooler conditions we will supply a range of warm gear that may include wetsuits, splash pants and neoprene boots.

### Other on-river extras you should bring include:

- A pair of River shorts or swimming costume
- A hat to keep the sun off.
- Sunglasses and strap so you don't lose them. (a piece of string also works fine).
- Waterproof sunscreen and lip balm SPF15 minimum.
- Top and bottom Thermals to wear under the spray jacket and spray pants or just on their own.
- On-river footwear.

## For evenings and around camp you should also bring:

- Lightweight long trousers.
- Quick dry shorts.
- Lightweight Long Sleeved shirt and a t-shirt.
- Fleece jacket.
- Thermal Top for cooler weather. Medium weight Heavyweight. Capilene, merino or polypropylene is the best.
- Rain jacket suitable for both on and off the boat
- Underwear.
- Sunhat for around camp.
- Glasses or Contact lenses. Disposable lenses are ideal.
- Toiletries. Toothbrush, toothpaste, biodegradable soap and shampoo.
- Forget the cosmetics and hair dryer! But we do suggest moisturizer.
- A 3-4 season sleeping bag (let us know if you require one from us)
- Travel Pillow.
- Small pack towel.
- Headlamp or head torch and spare batteries.
- Sandals/jandals or shoes/boots for wearing around camp and on hikes.
- Insect Repellent essential for New Zealand sandflies
- Any medication you may be taking.

#### Optional items

- A journal for recording your river memories.
- Sketchpad.
- Photographic or video equipment. On most trips we provide a waterproof pelicase for these items. We recommend a cleaning kit as sand gets everywhere. Bring a spare memory card. Also bring spare batteries for your camera.
- Swiss Army Knife or Leatherman.
- An iPod or other music preferences
- A good book to read



# **Packing List Notes**

# Health Aids and Medication

If you require daily medication for such things as diabetes or hypertension, you should pack 2-3 separate containers of the medication and keep them in separate places during the river trip. Please advise the Trip Leader if you require cold storage or other special storage facilities for your medication. If you use eyeglasses, contact lenses, hearing aids, or other health aids, it's a smart idea to bring "extras" on the trip with you. You should secure glasses with a chain or strap. Bring extra batteries for hearing aids if possible. Bring extra solution and cleaning agents for contact lenses. The sun, wind, sand and water may irritate contact lens wearers. If you have a pair of regular eyeglasses or prescription sunglasses, you may want to bring them with you, just in case.

# Photography Equipment

Most people want to document their river trip with photos. Although your camera will suffer some wear and tear and need a good cleaning when you get home, it should be relatively safe throughout the trip. There is room for your camera and other photo accessories in your ammo can. This container is accessible at all times. Bring enough memory cards and batteries to last your entire trip. There is no way to recharge batteries during the river trip.



#### **Binoculars**

Binoculars are nice to have if you enjoy close up views of birds, or natural features. We recommend small, lightweight models that will fit comfortably in your daypack and/or ammo can.

#### Footwear – Sandals, Athletic Shoes, Hiking Boots:

Good quality, comfortable, appropriate footwear is essential on the river. We recommend one pair of river sandals (similar to those made by Chaco or Teva). They can be worn on the boat and also on off-river hiking excursions. We also recommend one pair of athletic shoes as a backup, or as an alternative hiking shoe. Hiking boots are optional, but recommended if you need the foot/ankle support they provide if long or rugged hikes are included in your trip. You should consider a style of boot that is light weight, with good ventilation and constructed of synthetic material. Since we often cross streams, you will want hiking boots that won't be ruined if they are immersed.

# Money & Gratuities

Gratuities are not expected in New Zealand, therefore gratuities for the guides are at your discretion as a gesture of thanks for their professionalism and service. An appropriate tip might range between 7% to 12% of the trip cost, per guest.

#### Miscellaneous

You may wish to bring a pad and pencil to keep notes about your trip. On hot days some sort of sarong can be good to wear in camp. Other items that might come in handy include a few carabineers to fasten items such as day packs and water bottles to each other and/or to the boat or your dry bag.

# **General Information**

## Health & Fitness

People of all ages have enjoyed this river trip with us. Our major concern is that participants be in basic good health and good physical condition. We do not recommend this style of trip for those with chronic heart trouble, back pain, arthritis, or for anyone recuperating for surgery. Pregnant women should check with their physicians. Please tell us if you have any health conditions of which we should be aware.

#### Youth/Children

We recommend children be at least 12 years of age for our Ngaruroro River and Rangitikei Headwaters raft trips. We want to be sure they have good cognitive ability in an "emergency" situation. On all our other multi day river trips there is a minimum age of 8 years.



### **Allergies**

Please let us know if you have any allergies that we should be aware of. This would include food allergies, plant allergies, potential reactions to insect bites or stings and allergies to certain elements such as iodine. We need to know the severity of your reaction to these allergies, as well as the correct emergency first-aid procedures.

#### Meals

Our meals consist of a variety of fresh fruits, vegetables, meats, and dairy products. They are nutritious and delicious. Although we do not serve a "vegetarian" menu, we do provide enough fresh produce and non-meat items that most vegetarian dieters get along fine. We are willing to try and accommodate special diet requests if we are advised well in advance of the trip. Please give us a call to discuss your particular diet needs. If your diet needs are unusually unique, we may suggest that you bring some of your own food items to supplement our menu.

### **Beverages**

Cold water is available at all times on the boat and in camp. Coffee and assorted teas are available with breakfast and dinner. We also offer a small choice of fruit juice, soft drinks, and alcoholic beverages, including wine and beer. You may bring your own additional supply of wine, liquor and/or beer for the trip. Beverages must be in non-breakable cartons, plastic bottles, or cans.

## Hand Washing

We emphasize sanitation and cleanliness on the river. It is important to keep everyone healthy while travelling in a group. Portable hand-washing devices are set up in every camp and during lunch breaks.

### Sanitary Facilities

Portable toilet facilities are set up at each camp during trips on the Rangitikei or Ngaruroro Rivers. There are permanent toilet facilities at campsites on the Whanganui River. Feminine hygiene products can be disposed of in the toilet or with the regular trash.

#### Bathing & Solar Showers

You may bathe in any of the rivers we operate on utilizing biodegradable soaps and shampoos (free of detergents). Because the headwaters of the Rangitikei and Ngaruroro Rivers are generally cold, the best method for bathing is to follow the general rule of jump in and get wet, jump out and soap down, jump in and rinse off, and jump out and air dry! You should bathe only in calm water, shallow areas near the banks of the river. Be sure and have a least one companion nearby when you bathe. You may bring solar showers, but they often do not heat up enough during they day to deliver a hot shower.



### **Emergencies**

Our guides are capable of handling emergencies as they arise (although they are generally few and far between). Trip leaders and guides are certified in First Aid and CPR. Our emergency equipment includes wilderness oriented first-aid-kits, and satellite communications systems. We are able to call for medical assistance or evacuation if necessary. If an evacuation is necessary, you will be helicoptered out to a nearby hospital for treatment or hospitalization.

In the event of an emergency at home, please have your family call our office at +64 6 3881444.

We will advise them of the best way to handle the situation. Because this is a trip of short duration, we will probably suggest that we wait until you complete the river trip before giving you the message, depending upon the nature of the emergency. If it is imperative that you be notified immediately, we will do our best to get word to you and to evacuate you from the river if necessary. The cost is your responsibility. Therefore, make sure you tell your family/ friends that you wish to be notified only under certain specific conditions. If you have any questions or concerns, please call our office for further advice or information.

### Trip Insurance

We strongly recommend that you obtain travel insurance that will cover any emergency contingencies. While New Zealand ACC will cover emergency evacuation and medical costs in the event of accident, disruptions to your travel plans, or voluntary evacuation are not covered.

# Fishing

Fishing is a popular activity on some stretches of rivers on which we operate. Please let us know that you intend to fish and that you arrive with a current fishing licence for that area.

#### Reference and Reading Materials

It is always fun to know more about the area in which your trip is taking place. We suggest you study about the area prior to your river trip and bring along some maps and/or field guides to enhance your travel.

#### Special Needs

We will be happy to do our best to accommodate passengers with special needs if we are advised well in advance. Contact our office to discuss any specific requests.

#### **Feedback**

There are now many avenues to provide feedback about your experiences with us. You can communicate directly with us, or use a public forum such as Facebook or TripAdvisor. All feedback is appreciated.

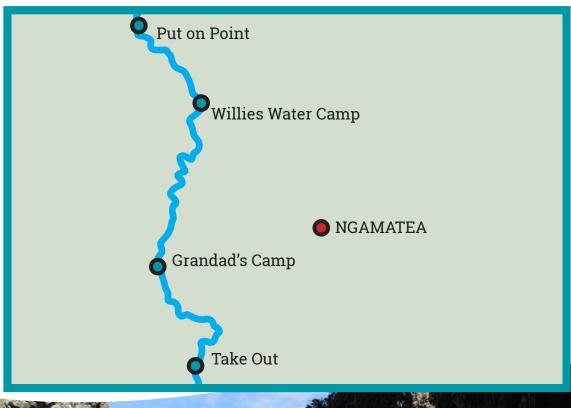


#### Questions

Feel free to contact us and discuss any questions or concerns you might have in regard to your trip or this information packet. Our e-mail is: thelodge@rivervalley.co.nz

Or call us toll-free at  $0800\ 248666$ . For those calling from outside N.Z., our local number is  $+64\ 6\ 3881444$ . We enjoy the opportunity to chat with our customers.

# The Journey





# **What To Expect On Your Trip**

# Camp Routine

Our guides will wake you early in the morning with a call for "coffee." When you hear the "breakfast" call, it means time to come to the kitchen area. After eating your breakfast, you will have a chance to pack your personal camping gear. The guides will breakdown the kitchen and start to load the boats. You may carry your gear to the beach area in front of the boats and when the guides are ready, they will ask for your help loading personal dry bags. We ask passengers not to board the boats until all gear is stored securely. We stop during the day for lunch, usually on a sandy beach along the bank of the river. After a full day on the river, we will find a place to set up camp. We ask everyone who is able to help unload the boats. Guides will set up the kitchen and community camping gear while individuals set up their personal area. If you have physical limitations, our guides are happy to assist you. Soon after making camp, the guides will begin to cook dinner. This is often a good time to write in your journal, read a book, or take a refreshing swim.

## **Protection of Historical Sites**

We may see, visit, or possibly camp within close proximity to protected cultural resources such as historical sites. Any disturbance to these resources is prohibited. We want to emphasize the importance of preserving, conserving, and protecting them so that future generations may experience their educational, aesthetic, and inspirational benefits. Our company, together with our river guides, has an ethical responsibility to protect cultural and historical sites. We wish to work for the long-term conservation and protection of these sites.

# Off River Hiking

On some of our river trips there is the opportunity to do some off river hiking. Before each hike, the Trip Leader will describe the expected length of time for the stop, the distance to the destination, the trail conditions, and any other relevant information. All hiking is optional and often there is a choice to hike just part of the way.



# **History and Education**

#### Māori Settlement

Tribes in northern and central Rangitīkei trace their descent from the Tākitimu canoe through Tamatea-pōkaiwhenua (Tamatea the land explorer). Tamatea travelled from Ahuriri (Napier) across the Ruahine Range into northern Rangitīkei, naming many places and leaving mōkai (pets) at certain locations. The mōkai became guardians of the district that his descendants were to occupy.

Tamatea's son, Tamakōpiri, and grandson, Tūwhakaperei, moved from Poverty Bay to the northern Rangitīkei. After about seven generations another descendant, Whitikaupeka, also arrived. Their descendants – Ngāti Tamakōpiri and Ngāti Whitikaupeka – expelled the earlier inhabitants, Ngāti Hotu, from inland Pātea. Ngāti Tamakōpiri occupy the lands west and Ngāti Whitikaupeka the lands east of the Moawhango River. The far north-east became the home of Ngāti Hinemanu and Ngāti Paki. These tribes are descended from Tamatea through Hinemanu, a high-born Ngāti Kahungunu woman, and her husband, Tautahi.

Ngāti Hauiti take their name from Hauiti, a descendant of Tamatea-pōkaiwhenua. They moved into the central Rangitīkei valley, where they built several pā and settlements, mostly around Ōhingaiti. Conflict with Ngāti Apa was commonplace, but hostilities ceased in the early 1800s when a marriage was arranged between Rua Kau of Ngāti Hauiti and Kāwana Hunia of Ngāti Apa. In the mid-1800s the main body of Ngāti Hauiti migrated to Te Hou Hou kāinga (settlement) at Rātā, which became their stronghold.

The most northern parts of the Rangitikei River (above where we put on) are within the area of Ngati Tuwharetoa, an Iwi centred around Lake Taupo.



## European Settlement

The Rangitikei District was settled by Europeans in a south to north pattern. The reason for this is that settlement tended to follow the construction of the Main Trunk rail line. The exception to this is the European settlement of the high country, above our put on point. This area, being originally Tussock land, was grazed by Merino sheep belonging to run holders as early as the late 1860s. On the flat lands nearer the sea settlement commenced with a large land purchase from Ngati Apa in 1849.

The area around River Valley Lodge at Pukeokahu, was settled in the late 1890s after another land purchase. Settlement of new areas concluded in 1908.

### Geology

#### Brief Geological History of River Valley Area, Rangitikei River

The greywacke rocks seen in the Whitewater River Section are the basement rocks of New Zealand. They were deposited on the continental shelf forming Gondwanaland 160 to 280 million years ago. Essentially NZ is a "baby" of Australia.

The Tasman sea-floor spreading separated NZ from Australia about 70 – 40 million years ago.

Approximately 150 million years passed by in which there were major earth movements such as faulting and folding, which is evident in the twisted nature of the greywacke. It has steeply tilted strata. There was also a few million years of erosion in which NZ was virtually flattened.

About 10 to 7 million years ago new earth movements began, with a lot of fault activity along the East Coast and the Alpine Fault. This is related to active sea floor spending in the Pacific Ocean, and sub+duction of the ocean crust beneath the North Island. As the Ruahine Range and Southern Alps were going up, the Wanganui Region from Taranaki to the Ruahine Ranges was subsiding. Faults enabled subsidence to occur. With subsidence the sea began to encroach the Wanganui Region.

From 7-2 million years ago the Wanganui Region was submerged and erosion of exposed parts of NZ resulted in the sediment filling the large sea-basin in the Wanganui- Taihape area. Many different formations are seen in the Rangitikei River. Some of the most interesting are limestone beds with fossil shells and hard slabby looking boulders called concretions (rich in calcium which cemented the rock locally). A close look at the rocks will reveal that they are very sandy and pebbly in appearance. This indicates a very shallow and watery environment, which is logical because of the nearness of the Ruahine Range 7-5 million years ago. However, further west towards Taihape there are thick mudstone formations, which mean deeper water. Note the thickness of the formations, in the summary geological section.

About 2 million years ago there was a new period of faulting and the whole region was up lifted. Also, volcanic activity began in the Taupo region.

About 8 glacial periods later and the Rangitikei Valley is as we see it today, deeply carved out by rivers and great for rafting.

By Pieter Frausen, Geologist Taupo.



#### GEOLOGICAL COLUMN IN THE RANGITIKEI MOAWHANGO AREA AS MEASURED BY GEOLIGISTS

Age Millions of years	Formation	Proportional Thickness		Rock Types
QUATERNARY		Rangitikei Valley		River gravels forming terraces and volcanic ash on the surface
2 Million Years -	and the state of t	Okiwa Group c. 480M		REGIONAL UPLIFTING  Sandstone and siltstone containing thin shell beds and limestone
		Mangaweka Mudstone c. 535m		A notable formation of mas- sive blue-grey mudstone that is seen across the Rangitikei to the Ruahine Range
PLIOCENE		c. 9-18m Near Taoroa c. 190m		Forms a permanent escarpment ridge and caps. Aorangi. Contains pebbles, shells and sands.
				Contains nodules
Concretions -	Artista priorit	Taihape	Z	Massive dark grey mudstone with concretions up to 2m in diametre and slab-like concretions in a sandy zone 30m thick.
Concretions -	Reserved	Mudstone c. 500m	S SECTION	MARINE BEDS AND DEEP
Concretions -			WHITE WATER RAFTING	WATER DEPOSITS
7 Million Years -			WATE	RAPID SUBSIDENCE BEGINS
MIOCENE		c. 820m but thinner on greywacke	WHITE	NON MARINE BEDS Sandy blue grey mud, sand and grit with shell beds are draped over greywacke SHALLOW WATER DEPOSITS
10 Million Years -				FAULTING, UPLIFT & EROSION
160 Million Years -				OF THE RUAHINE RANGE
JURASSIC TRIASSIC		c. 30km	į	Very hard dark grey folded rocks exposed as ancient hills in white water secion
280 Million Years -				



#### **Plants**

Before European purchase and land clearance, vegetation was similar to what characterised much of New Zealand/Aotearoa. The lower reaches of the river flowed through magnificent Podocarp forest. The dominant trees species would have been Totara, Rimu, Matai, Miro and Kahikatea, with an understory of hardwood species, shrubs and tree ferns. Higher up the river, the banks are still sporadically cloaked with native vegetation, with the Podocarps gradually giving way to Beech dominant forest. This Beech forest extends almost to the source of the river in the Kaimanawa Ranges.

At higher altitudes this Beech forest gives way in places to tussock grassland, and areas of regenerating Manuka forest, this latter being natural regeneration after the impact of several large fires.

#### **Birds**

New Zealand/Aotearoa before the coming of human beings was a giant aviary. Most ecological niches that elsewhere were filled by mammals, were here filled by birds. In fact the only mammals present were 3 species of Bat.

Unfortunately, the loss of habitat and the effect of introduced mammalian predators has not been kind to our native bird species. Our Islands have one of the highest extinction rates in the world, with many species, even with intensive management and pest control, only just holding on. Our Stoat Trapping program is part of the effort to protect and rebuild our populations of native birds.

On the river we are likely to see Kereru (Wood Pigeon), Kahu (Harrier Hawk), Piwakawaka (Fantail), Tui, Makomako (Bellbird), Kotare (Kingfisher), Parera (Grey Duck - mostly hybridised with introduced Mallards), Warou (Welcome Swallow), Riroriro (Grey Warbler), Poaka (Pied Stilt) amongst others. If we are lucky we will also see Karearea (Falcon) and Whio (Blue Duck).

We will also see a number of species of introduced birds, including the "Noisy Australian", the self introduced Spur Winged Plover.

#### Likely Weather

Rangitikei's climate is temperate and has few extremes compared to many parts of New Zealand/Aotearoa. As is to be expected, the prevailing north-westerly airflows affect coastal areas, and offers refreshing sea breezes to cool in summer. Summers are warm with average temperatures in the low 20s, but during summer can get into the low 30s. The most settled weather occurs in summer and early autumn. Winters are mild near the coast and on the plains; it's colder inland and in the hill country, but often frosty, clear and calm. Snowfall occasionally settles in areas 400m above sea level, such as Taihape. Annual rainfall is moderate. Annual hours of bright sunshine can average over 2,000.

During a Headwaters Trip we will start at quite high altitude, so it can be cool at night.

In other words, expect any type of weather at any time!



