Kia ora, gday and welcome to the History of Aotearoa New Zealand. Episode 59: Fish and Chips, yeah! This podcast is supported by our amazing Patrons. If you want to support HANZ go to patreon.com/historyaotearoa. It has been quite a few months since we talked about some aspect of pre-European Māori culture and there's been a few reasons for that. Part of it is that I have recently moved house so I was dealing with the nightmare that is shifting your entire life from one dwelling to another, which is also by the way, why I might sound slightly different in my new, less soundproof studio. It's also because I have been researching a couple of other topics for appearances on other podcasts talking about New Zealand history, so watch out for announcements on those! There is also the fact that this topic is just massive and I actually had to cut quite a bit out due to how large it was, a good problem to have but it does mean it takes just that bit longer! So, what are we gonna talk about for the next wee while? Fishing, both freshwater and saltwater. Much like the horticulture episodes we will be focussing more on the acquiring of fish species rather than how they were prepared for eating, so more on things like hooks, nets and techniques rather than hangi. To start with we are going to focus on saltwater or marine fishing.

Seafood was a major component of the pre-European and even post-European Māori diet all the way to the present day. As you might recall, when Māori first arrived in Aotearoa and they were trying to figure out which crops would grow and how to store them, they relied heavily on the children of Tangaroa to sustain themselves. And really the key reason for this heavy reliance was its ease of access. Most of the population was located on the coast so you could just drag down the waka, hop in, paddle out and throw over some lines, or if you didn't have a vessel, you could just walk down and fish in the shallows. Even more inland iwi would have temporary settlements that they went to in the fishing season to be able to catch and preserve fish and vice versa for coastal iwi looking to harvest freshwater species. It's also pretty easy to do if you know what you're doing and at the time fish were very abundant, Europeans later describing how nets would often be heaving with fish. This moving from inland kainga to temporary coastal settlements was really common, even in areas that you would have thought would almost always have ready access to the sea. For example in the Bay of Islands, about a third of the population had a lifestyle that involved moving from a more inland settlement where their crops were to a temporary settlement closer to the coast where they could take advantage of the fishing season in three months of the year. Another third of the population seem to have been almost totally nomadic, moving from one place to another fairly quickly, with the final third having good soil next to good fishing spots so they didn't really move much at all as there wasn't really a need to. This just kinda goes to show that despite what we have talked about in the past, there is always exceptions to the rule, cultures and people just don't fit into a nice neat box like we think they do, or like we want them to make it easier for us to understand them. Their far more complex than that.

Along with fish and the terrestrial species like moa that would have sustained the early Māori population, animals like seals and large sea birds would have also been hunted, drastically lowering their population. In fact, the impact from hunting on moa, seals and other large fauna may have been so severe in Ōtākou and Murihiku, Otago and Southland, that Māori in those regions switched to fishing as their main source of kai as early as 1350. Approx. 100 years after they initially arrived. However, southern Māori did rely more heavily on marine mammals as a source of fat than their northern counterparts, who used kūmara and the like for carbs in its place, so this was a somewhat unique circumstance, at least initially. Moa, along with about 30 other species of birds did go extinct so relience on marine, freshwater and shellfish as a main source of protein did become the norm across Aotearoa. To throw some stats onto this, some very clever people did some isotope studies to analyse what people were eating in the pre-European period. What they found in the Chatham Islands is that their diet was 90% marine in origin, which makes sense, they are a group of relatively

small islands with easy access to the sea and the fish within it. On the other hand, we see people at Lake Rotoiti, which is very much inland, had only 11% of their diet being marine in origin. This all seems rather obvious but it's important to confirm what seem like sensible and common sense ideas with evidence, cause sometimes you may find that what you thought would be straight forward isn't exactly the case. The other thing I should mention about the Lake Rotoiti statistic is from the North Island one. There are probably like three people listening that know why that's important but for the rest of you it's because the confusing thing about Rotoiti is that there is two of them, one in the North Island and one in the South Island. Just to make things a little confusing sometimes.

One of the interesting things we find when looking at the fish bones in middens and settlements is that one or two fish species tended to dominate the diet of an area. In the North Island snapper tended to be very popular whereas in the South Island barracouta and red cod tended to be favoured but this would vary from region to region depending on what species could be found there. Interestingly, we also find bones from fish species in areas that they are no longer found. Again in Ōtākou and Murihiku, bones from snapper have been found. If you go out with a rod and try to catch them there today, well, I wish you luck cause you're gonna need it. We also find that species that used to live in shallower areas now can only be found in deeper spots. The same culprit is responsible for both of these phenomenon, modern commercial fishing which removes the easier to catch individuals, who would usually live closer to shore. This has been seen for species such as hāpuku, grouper, and scientists have been aware of it for about 100 years.

Overall, we actually find that six species of fish account for 85% of the total identifiable fish remains at archealogical sites. Of these, four are coastal reef fish species (blue cod, snapper, spotty and butterfish), one is a coastal benthic fish (red cod) and the other is a coastal oceanic pelagic fish (barracouta). We will go over what benthic and pelagic means in a minute. The problem with this analysis though is that all of these species have easily identifiable skeletal features so it possible that these results are skewed cause the rest of the fish bones couldn't be identified. In saying that, studies do suggest that there were highly specialised fisheries, such as in the case of creating hooks designed to catch only one species. The problem with being that specialised is that most fisheries had a season that usually coincided with when that species was close to to the coast. As such, when the desired fish species was out of season, Māori would catch less desirable fish until the ones they wanted returned to their fishing grounds. Less desirable fish being things like banded or scarlet wrasse.

But what about sharks, skates and rays I hear you ask? Well, maybe not unless you're a fish person. Or rather a person that is quite familar with fish, I should say. Even if you aren't a fish person, something you may be aware of that makes sharks, skates and rays different from say kahawai is that they are cartilagenous fish, rather than bony fish like all the fish we have mentioned thus far. This basically means that their skeleton is made up of cartilege rather than bone, cartilege being the same stuff that your nose is made out of. The reason I mention all this is that we don't find very many examples of these fish in middens or when they are found, they are extremely hard to identify. This is because of how quickly they degrade over time, cartilege just isn't quite as robust as bone is, which is also why you don't see human skulls from hundreds of years ago with their nose structure still intact. This absence of evidence doesn't nessecarily mean that Māori didn't catch them though, we actually think that they did. There are 27 elasmobranchs (that's the fancy word for sharks skates and rays) that are found at less than 50m depth in Aotearoa's waters. Of those 27, 21 of them have a Te Reo name predating European arrival, which obviously wouldn't be the case if Māori weren't familiar with them. We also have reports from early European settlers who say they saw sharks on drying racks or stages, one such stage said to be three tiers high and 228m long.

By in large, due to the sheer amount of fish around Aotearoa, something that was well recorded by early European settlers, it is unlikely that Māori were able to significantly reduce fish populations or the body size of fish that we see commercial fishing doing today. In fact, we sometimes see the average size of fish increasing in middens as time goes on. Though whether this was due to a deliberate conservation effort by Māori or because they started to use hooks and line rather than nets as they moved away from inshore reefs, it's hard to say.

Like many jobs in Māori culture marine fishing was a gendered task, being performed by men due to the tapu nature around it and the waka itself. Women would usually gather shellfish and freshwater fish, excpet eels, which was also a job for the men. This isn't hard and fast though and there a number of pictures in later periods where men are fishing in rivers or lakes. In general though, men would go out in the morning to catch fish and then bring it back, handing it off to the women to clean, gut and carry back to the village, sometimes saying karakia over them. Naturally, various hapū would be very secretive of the locations of their fishing grounds and would defend them from rival hapū if needed. In fact, trespassing on someone else's fishing grounds cold incur severe punishment and could be a reason for war between hapū or iwi. These fishing grounds would usually be indicated by prominant rocks, banks or other obvious landmarks that were usually named and had some sort of kōrero associated with them. This was particularly important for men in waka who would be following the coast line, wanting to make sure they were in the right fishing grounds by keeping an eye out for these features. If there weren't any obvious landmarks that could be used on the coast, they would triangulate their position by looking further afield at other features, such as prominent trees, hills, capes and other large rocks. Best talks about Kapurangi, a taunga ika, fishing ground, that was named for a hill that was used to ensure fishermen were in the correct spot. To do this they used four hills, two on one side and two on the other. When the two hills on the left were directly in line with each other so that one hill was in front of the other, you would continue paddling until the same was acheived for the right side, indicating that you were in the correct spot. It's kinda hard to describe so I'll put a picture on the website under this episode that kinda illustrates it. Depending on the area and what landmarks were there, this process could be quite a bit more complicated but that is the general gist. This method was also extremely accurate, being able to locate a reef, for example, with a margin of error of 5m when the waka was 8-15km from the coast. Some observers saw Kai Tahu fishermen triangulating a position correctly when they were up to 50km from the shore during the 1840s-1860s.

Another thing that Best briefly talks about is a small object called a mauri. This was believed to have a direct connection to the gods and was a conduit for their power. They were meant to attract fish and protect them but Best doesn't really offer much more information on how they were used. He has a picture of one that was a small stone in a donut sort of shape so my guess would be that they were brought on waka and maybe tied to the vessel or maybe put on a line to act as a sinker, which we know Māori did use. He also describes a mauri that was phallic in shape and a sinker that had a carved vagina on it too, but doesn't offer any further info. Presumably the god protecting the fishing grounds and attracting the fish was Tangaroa, atua of the sea, but Best specifically says it was gods, plural. This could just be down to his lack of understanding in how the Māori pantheon worked or perhaps it was more in reference to taniwha inhabiting those waters rather than full blown gods. Something else worth mentioning is that a number of these sites that have been historically used by Māori to catch fish are still in use today.

Something we are going to talk quite a bit about were the tools Māori were using and how they used them, primarily the different hooks and nets. To kinda prime you for next episode, we will talk about some matau, hooks, of which Māori used two primary types. Benthic fish were caught with a circular

bait hook while pelagic fish were caught with pā kahawai or pohu mangā, trolled lures. Benthic means fish that live close to the shore or on the bottom of the sea floor whereas pelagic means fish that don't live on the bottom but don't live near the surface of the water either, they swim around in the middle, sort of. For our purposes pelagic effectively means 50-100m depth as this was the area that Māori would usually target when fishing, they didn't really need to go deeper due to the abundance of fish at those depths. The reason we know this is that no fish species that lives below 100m in depth has been found in middens across the country, as well as that those species don't have a name in Te Reo, or at least one that predates European arrival. One example of this is the orange roughy, which lives around 800-1200m depth. They weren't given the Te Reo name nihorota until the early 1990s. In fact, the English name orange roughy was coined in the 80s as a marketing ploy to try and encourage people to eat the fish as its name overseas was orange slimehead, which was naturally not very appealing. Since there isn't a historic fishery for orange roughy by Māori, there are no indigenous rights outside the New Zealand Quota Management System to catch the species as there are for other fish. According to Wikipedia, New Zealand now operates the world's largest orange roughy fishery, accounting for more than 95% of the total global catch. Most of this is exported to the United States. This, as you can imagine, has had a major impact on the orange roughy population.

Māori fishing could be broadly split up into four categories depending on the habitat. These were land fishing, where no waka or other vessel was used, inshore fishing, where a waka would be up to 5km from the coast, offshore fishing, where they would be more than 5km from the coast but still within sight of land and open ocean fishing, where they would be beyond the sight of land. The only thing to note with this is that these categories are independent of ocean depth, as you might typically expect the ocean to get deeper the further out you go. However this isn't always the case, such as some areas within 5km of the Kaikōura coast reaching up to 1000m in depth. Fun fact: Kaikōura is made from two words, kai meaning food and kōura, meaning crayfish. So the name means meal of crayfish. As we have talked about, Māori would most often stick close enough to the coast so that it was still within eyesight so species like tuna, marlin or swordfish usually weren't on the menu, as these are more open ocean fish, requiring them to head out beyond the horizon. That isn't to say they didn't though, just when the conditions were almost perfect as their waka weren't exactly designed to go in open ocean in the same way the large double hulled ones were in the days of old. Plus, why would you go out that far and risk your life more if the weather wasn't good or the sea was rough when you have a huge amount of fish that you can safely catch closer to shore? We also don't see much documentation from Europeans either. However, there some whakatauki that talk about testing a man's uhhh, manliness by catching a swordfish, so it isn't out of the question that open ocean fishing did hold some form of importance and that it just didn't happen at the right times for Europeans to record it, which we have seen for other aspects of Māori culture as well. Tuna and swordfish would also be able to feed a lot of people, say at a feast, or a small group of people for a very long time due to how bloody massive they are, so it also stands to reason it just didn't happen that often because of that as well.

Much like how the planting and harvesting season was dictated by the stars and moon, the Māori fishing season is also associated with maramataka, the Māori lunar calendar. Generally speaking summer was the time to go catch most fish, no one really wants to be out on a boat in the cold and wind trying to catch dinner when you could be at home wrapped in your kakahu next to the fire. Most people would rather be in the sun, getting a tan and having a few bevvies with the bois while trying to catch some snapper for the BBQ. But of course it was also down to what fish species were in the area and when they would be within reasonable fishing distance, so it wasn't the same everywhere. Such as in the Bay of Plenty, one of the warmer regions of the country where modern

day Tauranga sits. In this region the fishing seasons were roughly Feb-Mar for blue maomao and kahawai, Mar-May for hāpuku (grouper) and tāmure (snapper), June-July for blue warehou and blue moki and Aug-Oct for tarakihi, red moki, blue cod and gurnard.

Next time, we will talk more about matau, hooks. What they were made of, the techniques used to catch fish with them and the ingenious method of how they worked. It's more than just throwing your line over and hoping something goes for a nibble!

If you want to send me feedback, ask a question, suggest a topic or just have a chinwag you can find my email and social media on historyaotearoa.com. This podcast is a one man band, if you enjoy listening to me talk history, you can support us through Patreon, buy merch or give us a review, it means a lot and helps spread the story of Aotearoa New Zealand. As always, haere tū atu, hoki tū mai. See you next time!