**Voyaging within Aotearoa New Zealand:**

**pre-Contact transport of resources to, from and within Te Tai Tokerau**

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**Supplementary Material**

Appendix 1 of the Supplementary Material provides source information for early sites of Te Tai Tokerau (Figure 1), and Appendices 2–13 the distribution of the 11 lithics shown in Figures 2–13.

**Appendix 1.** Sites in Te Tai Tokerau apparently pre-1500, based *not* on rock-type *per se*, but on 1) radiocarbon dating; 2) presence in middens of moa and marine-mammal bone; 3) a wide variety of presumably-locally-acquired fish and shellfish; 4) presence of moa or marine-mammal bone artefacts (particularly fishook componentry); and/or 5) presence of *early-style* artefacts (*sensu* Furey 2004:38ff). Excludes sites thought not to have been first occupied until well into the 15th century. In Location column, 1) upper case indicates locations considered by the author on the evidence available to be multi-year/even 1–2 generations; 2) \* indicates a ‘Moa-hunting site’ of Anderson (1989:111); 3) # indicates a likely Archaic site of Davidson (1982:19); and 4) site number from ArchSite, New Zealand Archaeological Association’s Site Recording Scheme website, where a single site is involved (SRF). Prickett (1989) gives the location of individual old-style adzes in several other parts of the far north of Te Tai Tokerau than indicated. For Mitimiti, many artefacts in Booth Whanau Collection (BWC), Waitangi Museum were deemed ‘early’ by Dr Ian Smith, University of Otago in 2018. Radiocarbon dates from New Zealand Radiocarbon Database (NZRDB; with the notation NZ\*\*\*\*) and reports cited.

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|  | **Location** |  | **Taxa present in middens** | **Artefact** |
|  |  | **Earliest radiocarbon date of human presence** | **Moa bone** | **Marine-mammal bone** | **Wide variety of finfish** | **Wide variety of shellfish** | ***Cellana denticulata*** | **Moa bone** | **Marine-mammal bone** | **Early-style stone/shell** |
| **1** | **Waikuku Bch/Whareana Bay/Ngakeno Bch** |  | Fairfield (1960:65): Slocombe (1993:33–34, Appendix B) | Taylor (1968:45); Slocombe (1993:33–34, Appendix B) | Slocombe (1993: Appendix B) | Slocombe (1993:33–34, Appendix B) | Coster (1989:52); Slocombe (1993:34) |  |  | Prickett (1989:146) |
| **2** | **TOM BOWLING BAY \***# |  | Coster (1983:187, 1989, 1997:7); Slocombe (1993:32, Appendix B)  | Taylor (1968:45); Coster (1983:187, 1989:51, 1997:7); Slocombe (1993:32, Appendix B)  | Slocombe (1993: Appendix B) | Slocombe (1993:32) | Coster (1989:52, 62) | Slocombe (1993:32); Booth et al. (2017:37); BWC, Waitangi Museum | Slocombe (1993:32); Booth et al. (2017:37); BWC, Waitangi Museum | Slocombe (1993:40); Booth et al. (2017:37); Campbell et al. (2018:83,99); BWC, Waitangi Museum |
| **3** | **SPIRITS BAY** # |  | Slocombe (1993: Appendix B) | Slocombe (1993: Appendix B) | Slocombe (1993: Appendix B) |  | Coster (1989:52) |  |  |  |
| **4** | **Te Werahi Bay** # |  | Slocombe (1993: Appendix B) | Slocombe (1993: Appendix B) | Slocombe (1993: Appendix B) |  | Coster (1989:52) |  |  | Slocombe (1993:32, Appendix B) |
| **5** | **Twilight Bch** # | CRA 1005 ± 33 (95% 660-535 BP); (Slocombe 1993:15) (NZ6579); 1285–1414 (Turner 2000:338) | Slocombe (1993: Appendix B) | Taylor (1984:224);Slocombe (1993: Appendix B) |  |  | M02/162 |  | Taylor (1984:226) | Taylor (1984:53); Prickett (1989:146)Slocombe (1993:35,39) |
|  | **‘North Cape’** |  |  |  |  |  |  |  |  | Turner (2000:337,428) |
| **6** | **(Mainly northern) Ninety Mile Bch**  | Multiple sites, CRA 756–816 (Coster 1989:56)  | Coster (1989) Slocombe (1993:30, Appendix B) | Coster (1989); Slocombe (1993:30, Appendix B) | Slocombe (1993: Appendix B) |  |  | Slocombe (1993:30)  | Slocombe (1993:30)  | Coster & Johnston (1976:263); Moore et al. (1979:60-61); Prickett (1989:146);Coster (1989:52; 1997:10–11,25) |
|  | **‘Te Aupouri’** |  |  |  |  |  |  |  |  | Turner (2000:428) |
| **7** | **Henderson Bay** # | CRA 903±57 (NZ4608); CRA 819±56 (NZ4609)  | Coster & Johnston (1976:8)  | Coster & Johnston (1976:8) |  | Coster & Johnston (1976:8) | Coster & Johnston (1976:8) |  |  |  |
| **8** | **HOUHORA \*#**(N03/59) | Early to mid 14th century (Petchey 2000:104: Furey 2002:35) | Roe (1967); Furey (2002) | Roe (1967); Furey (2002) | Furey (2002) | Furey (2002) |  | Roe (1967); Furey (2002) | Roe (1967); Furey (2002) | Roe (1967); Prickett (1989:146); Furey (2002) |
| **9** | **East Bch**  |  |  |  | Douglas & Fredericksen (1985:22) | Douglas & Fredericksen (1985:22) |  |  |  | Douglas & Fredericksen (1985:1) |
|  | **Far North’s ‘East Coast + Mt Camel’** |  |  |  |  |  |  |  |  | Turner (2000:428) |
| **10** | **Karikari Bay** |  |  | Phillips & Foley (1978:13) |  |  |  |  |  | Prickett (1989:146) |
| **11** | **Maitai Bay \*** |  | Millener (1981) in Anderson (1989:110) |  |  |  |  |  |  |  |
|  | **Far North’s ‘Sth East Coast’** |  |  |  |  |  |  |  |  | Turner (2000:428) |
| **12** | **TAUROA POINT** (N05/302) | 14th century (Allen 2006:19) |  | Allen (2006:51) |  |  |  | Allen (2006:28,51) | Allen (2006:28,51) | Allen (2006); Phillipps et al. (2016) |
|  | **Far North’s ‘Sth West Coast’** |  |  |  |  |  |  |  |  | Turner (2000:428) |
| **13** | **Tauranga Bay**(P04/639) | 14th century (Campbell et al. 2018:84) |  | Campbell et al. (2018:84) | Campbell et al. (2018:84) | Campbell et al. (2018:84) |  |  |  |  |
| **14** | **Cavalli Is** | ‘Archaic’ middens (Maingay 1986:46,48) | Maingay (1986:48, but may be dog) | Maingay (1986:4) |  |  |  |  |  |  |
| **15** | **Patunui**(P05/986) | 1400–1500 (McCoy & Ladefoged 2012:3)  |  |  | McCoy & Ladefoged (2012:4)  |  |  |  |  |  |
| **16** | **Wairoa Bay**(P05/853) | ¬1400 (Best 2003:1) | Best (2003:24) | Best (2003:23)(?) |  | Best (2003:26) |  |  |  |  |
| **17** | **Otehei, Hahangarua, Opunga bays** | ¬1300 (Peters 1975; Anderson 1991; NAR 1997; Goddard 2012) | NAR (1997)  | NAR (1997)  |  | NAR (1997)  |  |  |  |  |
| **17 cont.** | **MANGAHAWEA BAY** (Q05/682) | Early to mid 1300s (Robinson et al. 2019:45) | Robinson et al. (2019) | Robinson et al. (2019) | James Robinson (pers. comm. 2020) | James Robinson (pers. comm. 2020) | Robinson et al. (2019:46) | James Robinson (pers. comm. 2020) |  | James Robinson (pers. comm. 2020) |
| **18** | **Manawaora Bay** |  | NAR (2011:8) |  |  |  |  |  |  | Best (1996:19); NAR (2011:8) |
|  | **Mid North’s ‘East Coast’** |  |  |  |  |  |  |  |  | Turner (2000:428) |
| **19** | **MITIMITI** |  |  |  |  |  |  | BWC, Waitangi Museum | BWC, Waitangi Museum | BWC, Waitangi Museum |
| **20** | **Kokohuia**(O06/317) | 1400s (Taylor nd; Campbell et al. 2018:83)  | Taylor nd | Taylor nd | Taylor nd | Taylor nd |  |  |  | Taylor nd |
| **21** | **Waipoua Forest**(O06/290) | CRA 930±45 (Wk1083); 1265–1405 (SRF) |  |  |  |  |  |  |  | O06/290 (SRF) |
| **22** | **Te Akau Bay** (unrecorded midden) |  |  |  | Author’s unpubl. obs. | Author’s unpubl. obs. | Author’s unpubl. obs. |  |  |  |
| **23** | **Bland Bay**  | ‘Archaic’ midden (Maingay 1986:128) | Author’s unpubl. obs. | Author’s unpubl. obs. | Author’s unpubl. obs. | Author’s unpubl. obs. |  | Author’s unpubl. obs. | Author’s unpubl. obs. |  |
| **24** | **Ngungaru Bay, Pataua, Taiharuru Bay, Awahoa Bay, ‘Stockyard Bay’** |  | Thorne (1875); Maingay (1986:135) | Thorne (1875) | Thorne (1875) | Thorne (1875) |  |  |  | Thorne (1875) |
| **25** | **Ocean Bch** |  | Thorne (1875): Carpenter (2012) | Carpenter (2012) | Carpenter (2012) | Carpenter (2012) |  | Carpenter (2012) | S561 BWC; Carpenter (2012) | Carpenter (2012) |
| **26** | **Smugglers Bay** (Q07/87) |  | Nevin (1984:63); Carpenter (2012) | Nevin (1984:63); Carpenter (2012) | Nevin (1984:63) | Nevin (1984:63)  | Nevin (1984:63)  | Nevin (1984:63)  | Nevin (1984:63)  | Nevin (1984:63)  |
| **27** | **North Kaipara Hd** |  |  |  |  |  |  |  |  | Coster (1980:6) |
|  | **Mid North’s ‘ Kaipara Heads’ & Inner Kailara Harb.’** |  |  |  |  |  |  |  |  | Turner (2000:428) |

**Appendix 2.** References citing finds of **Pungaere/Kaeo** obsidian, assigned using X-ray fluoresence, within Te Tai Tokerau (arabic numerals) and beyond Te Tai Tokerau (alphabetic), together with likely era. Indicative age is the date-range/period of the layer, provided by the author(s), in which the item was located; italics indicate undated sites from Figure 1 presumed to be pre-1500.

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|  | **Apparent era (dark shading, mainly pre-1500; light shading, mainly post-1500; medium shading, transitional)** | **Lithic assignment** | **Location** |
|  | **Indicative age (page)** | **Method (page)** | **Method (page)** |  |
| *1, Booth et al. (2018:13)* | *?* | *-* | *XRF (13)* | *Tom Bowling Bay*  |
| 2, L. Furey pers. comm. | Early | *-* | XRF | Twilight Bay |
| 3, Moore & Coster (2015:8) | Late 15th to 18th centuries (1,13) | Radiocarbon (5) | XRF (8,11) | Ninety Mile Beach |
| 4, Moore & Coster (2015:15) | ? | - | XRF (presumably) (15) | Kowhai Beach  |
| 5, Furey (2002:108) | 1300s (36) | Radiocarbon (37) | XRF (108, line 14) | Houhora |
| 6, Phillipps et al. (2016:113,118) | ~late 14th century (107) | Radiocarbon (in Allen 2006:50) | XRF (108) | Tauroa Point |
| 7, Booth et al. (2018:13) | ? | - | XRF (13) | Berghan Point to Tikitiki  |
| 8, Booth et al. (2018:13,17) | ? | - | XRF (13,17) | Mainly W and NW Bay of Islands  |
| 9, McCoy et al. (2019) | 1400–1500 (McCoy & Ladefoged 2012:3)  | Radiocarbon (McCoy & Ladefoged 2012:3)  | XRF (McCoy & Ladefoged 2012:6) | Patunui  |
| 10, Booth et al. (2018:17) | ? | - | XRF (17) | SE Bay of Islands  |
| 11, McCoy et al. (2019) | ? | - | XRF | Mangahawea Bay, Paeroa Pa |
| 12, McCoy et al. (2010:175) | Classic Period (175) | Taxa present (175) | XRF (175) | Urupukapuka; also McCoy et al. (2019)  |
| 13, McCoy et al. (2014:472) | 1400–1600 (472) | Radiocarbon (469) | XRF (470) | Pouerua |
| 13, McCoy et al. (2014:472) | 1600–1769 (472) | Radiocarbon (469) | XRF (470) | Pouerua |
| 14, McCoy et al. (2010:177) | Classic Period (177) | Radiocarbon (presumably) (177) | XRF | Pouerua, based on Seelenfreund & Bollong (1989) assignments |
| *15, Booth et al. (2018:13)* | *?* | *-* | *XRF (13)* | *Mitimiti*  |
| 16, Turner et al. (2010:94) | 1500–1700 (ii) | Radiocarbon (ii) | XRF (89) | Puwera; also Hoare (nd) & Kerrigan (2008) |
| 17, Harris (2012:9) | Late 15th to mid-17th centuries (11) | Radiocarbon (11) | XRF (9) | Midden B, Urquharts Bay |
| 18, Moore (2012:23)  | ? | - | XRF (presumably) | North Kaipara Head |
| a, Spring-Rice (1978:1) | ? | - | XRF (1) | South Kaipara Head |
| b, Cruickshank (2011) | Post-1500  | Radiocarbon  | XRF  | Auckland; details in Ladefoged et al. (2019:4) |
| c, Campbell & Hudson (2011:59-60) | 1620–1870 (39) | Radiocarbon (39) | XRF (59) | Auckland Airport |
| d, Phillips & Green (1991:169) | ? | - | XRF (presumably) (169) | Hauraki Plains |
| e, Walter & Brooks (2014:24) | Archaic | Radiocarbon | XRF (24) | Wairau Bar (based on Knox 2011) |
| f, Mosley & McCoy (2010:10)  | ‘Archaic’ (6) | Radiocarbon (presumably) | XRF  | Wakanui; also McCoy et al (2019)  |
| g, McCoy & Robles (2016:289) | ‘Early Period’ (286) | Radiocarbon (presumably) | XRF (289) | Waitaki River mouth; also McCoy et al. (2019) |
| h, McCoy & Robles (2016:289) | ‘Early Period’ (286) | Radiocarbon (presumably) | XRF (289) | Long Beach; also McCoy et al. (2019) |

**Appendix 3.** References citing finds of ‘Northland’ (**Pungaere/Kaeo** or **Huruiki**)obsidian, assigned using X-ray fluoresence, within Te Tai Tokerau and beyond Te Tai Tokerau, together with indicative era. Note there was probably other Northland-sourced obsidian determined by Seelenfreund & Bollong (1989:178–180) (eg, ‘Northland or Mayor Island’). Indicative age is the centre-point of the estimated age of the layer in which the item was located. The lower table gives the location numbers from Seelenfreund & Bollong’s (1989:171) map of sites sampled.

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|  | **Apparent era (dark shading, mainly pre-1500; light shading, mainly post-1500; medium shading, transitional)** | **Lithic assignment** | **Source/Location** |
|  | **Indicative age (page)** | **Method (page)** | **Method (page)** |  |
| □, Seelenfreund & Bollong (1989:180) | 630 BP and older (180)Early (~1320) | Radiocarbon (173–174) | XRF (174) | Table 3 |
| Δ, Seelenfreund & Bollong (1989:179) | 630-350 BP (179)Mid (~1320–1600) | Radiocarbon (173–174) | XRF (174) | Table 2 |
| Օ, Seelenfreund & Bollong (1989:178) | 350 BP to present (178)Late (post-1600) | Radiocarbon (173–174) | XRF (174) | Table 1 |
| Օ, Anderson (1983:17) | 18th century (2) | Items found (2) | XRF (16) | Mapoutahi Pa (nr Blueskin Bay) (48) |

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| **Map No.** |  **Location** | **Map No.** |  **Location** | **Map No.** |  **Location** | **Map No.** |  **Location** |
| 1 | Houhora | 13 | Kauri Pt Swamp (Katikati) | 25 | Paremata | 41 | Long Beach (Otago Peninsula) |
| 2 | Pouerua | 16 | Raglan | 26 | Tahunanui | 45 | Tiwai Pt |
| 3 | Harataonga (Great Barrier I | 17 | Raglan | 28 | Wairau Bar | 47 | Heaphy R mouth |
| 8 | Skippers Ridge (Opito Bay, Coromandel) | 19 | Mangakaware/Ngarato (west Waikato) | 34 | Redcliffs | 48 | Blueskin Bay |
| 9 | Hahei | 20 | Tokoroa | 35 | Waitaki R mouth |  |  |
| 10 | Hot Water Bch | 23 | Maiora (west Waikato) | 39 | Shag Point |  |  |
| 11 | Tairua | 24 | Hingaimotu (south Taranaki) | 39 | Shag Point |  |  |

**Appendix 4.** References citing finds of **Huruiki** obsidian, assigned using X-ray fluoresence, within Te Tai Tokerau (Arabic numerals) and beyond Te Tai Tokerau (alphabetic), together with likely era. Indicative age is the date-range/period of the layer, provided by the author(s), in which the item was located; italics indicate undated sites from Figure 1 presumed to be pre-1500.

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|  | **Apparent era (dark shading, mainly pre-1500; light shading, mainly post-1500; medium shading, transitional)** | **Lithic assignment** | **Location** |
|  | **Indicative age (page)** | **Method (page)** | **Method (page)** |  |
| *1, Moore (2012:22-24)* | *?* | *-* | *XRF (22)* | *Waikuku Bch* |
| 2, Moore & Coster (2015:8) | Late 15th to 18th century (1) | Radiocarbon (4) | XRF (8,11) | Ninety Mile Bch |
| 3, Phillipps et al. (2016:113,118) | ~late 14th century (107) | Radiocarbon (in Allen 2006:50) | XRF (108) | Tauroa Point |
| 4, McCoy et al. (2019) | ? | - | XRF | Urupukapuka I |
| 5, McCoy et al. (2010:175,178) | Classic Period (175) | Taxa present (175) | XRF (178) | Urupukapuka I |
| 6, McCoy et al. (2019) | ? | - | XRF | Mangahawea, Paeroa Pa |
| 7, Booth et al. (2018:15)  | ? | - | XRF (13,15) | Bay of Islands  |
| 8, McCoy et al. (2010:177,178) | Classic Period (177) | Radiocarbon presumably (177) | XRF  | Pouerua, based on Seelenfreund & Bollong (1989) assignments |
| 9, McCoy et al. (2014:472) |  1400–1600 (469) | Radiocarbon (469) | XRF (470) | Pouerua |
| 9, McCoy et al. (2014:472) |  1600–1769 (469) | Radiocarbon (469) | XRF (470) | Pouerua |
| 10, Hill & Campbell (2009:7) | 1650–1810 (9) | Radiocarbon (9) | XRF (7) | Oakura |
| 11, McCoy & Carpenter (2014:8) | 1500–1769 (1) | Radiocarbon (2) | XRF (4) | Helena Bay |
| 12, Robinson (2016:317) | Probably late (317) | Mainly the near-absence of Mayor I obsidian (317) | XRF (28) | Poor Knights Is |
| 13, Prince (2010:15) | ? | - | XRF (17) | Ngunguru |
| 14, Phillips & Druskovich (2009, Addendum:6)  | 1520–1650 (29) | Radiocarbon (29) | XRF (Addendum:6) | Urquharts Bay |
| 15, Harris (2012:9) | Late 15th to mid-17th centuries (11) | Radiocarbon (11) | XRF (9) | Urquharts Bay |
| 16, McCoy & Carpenter (2014:8) | Late Period (post-1500) (1) | Taxa present (2) | XRF (4) | Bream Head |
| 17, Turner et al. (2010:94) | 1500–1700 (ii) | Radiocarbon (ii) | XRF (89) | Puwera; also Hoare (nd) & Kerrigan (2008) |
| a, Spring-Rice (1996:221) | ‘Archaic’ | Mainly artefacts present | XRF (221) | South Kaipara Head |
| b, Spring-Rice (1978:1,5) | ? | - | XRF (1,5) | South Kaipara Head |
| c, Reeves & Ward (1976:279–280) | ? | - | XRF (279) | Otakanini Pa (near Parakai) |
| d, McCoy & Carpenter (2014:8) | Late Period (post-1500) (1) | Radiocarbon (2) | XRF (4) | Mt Wellington |
| e, Fox (1982:208)  | 1430–1620 (208) | Radiocarbon (208) | XRF (208) | Mount Roskill |
| f, McCoy et al. (2019) | pre-1500 (4) | Radiocarbon (3) | XRF (1) | Waiheke I. (Date based on Ladefoged et al. 2019) |
| g, Campbell & Hudson (2011: 59–60) | 1620–1870 (39) | Radiocarbon (39) | XRF (59) | Auckland Airport |
| h, McCoy et al. (2019) | ? | - | XRF | Otuatua Stonefields |
| i, Ward (1974:13)  | Early  | Radiocarbon  | XRF (13) | N38/24 Motutapu I (also see Reeves & Ward [1976:279]) |
| j, Reeves & Ward 1976:279) | ‘Middle Phase’ | Radiocarbon | XRF | N38/37 Motutapu I, drawing on other studies |
| k, Sheppard et al. (2011:55) | ? | - | XRF (52) | Ponui I. |
| l, Harsant (1985:23) | Archaic (Harsant 1983) | Radiocarbon (Harsant 1983) | XRF (22) | Hahei (possibly also in Seelenfreund & Bollong 1989) |
| m, McCoy et al. (2019) | ? | - | XRF | Great Mercury I  |
| n, Walter & Greig (2017:20) | Possibly 14th to early 15th century (20) | Associated items | XRF (20) | Eastland Port (but could be from Hahei) |
| o, Leach (1978:395);  | Early Phase (393) | Radiocarbon presumably (393) | XRF (394,395) | Cape Palliser (also Reeves & Ward [1976] & Leach & Anderson [1978]) |
| p, Reeves & Ward (1976:282) | Late Phase (282) | Various | XRF (279) | Palliser Bay, drawing on several sources |
| q, Anderson (1983:17) | 18th century (2) | Items found (2) | XRF (16) | Mapoutahi Pa (nr Blueskin Bay) |
| r, Reeves & Ward (1976:282) | Late Phase (282) | Various | XRF (279) | Sandhill Point, drawing on several sources |

**Appendix 5.** References citing finds of **‘Poor Knights Islands’** obsidian, assigned using X-ray fluoresence, within Te Tai Tokerau (Arabic numerals) and beyond Te Tai Tokerau (alphabetic), together with likely era. Indicative age is the date-range/period of the layer, provided by the author(s), in which the item was located.

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|  | **Apparent era (dark shading, mainly pre-1500; light shading, mainly post-1500; medium shading, transitional)** | **Lithic assignment** | **Location** |
|  | **Indicative age (page)** | **Method (page)** | **Method (page)** |  |
| 1, Moore & Coster (2015:8, 11)  | Late 15th to 18th centuries (1) | Radiocarbon (4) | XRF (8, 11) | Ninety Mile Beach |
| 2, Booth et al. (2018:15) | ? | - | XRF (15) | Whiorau Bay  |
| 3, Robinson (2016:317) | Probably late period (317) | Mainly near-absence of Mayor island obsidian (317) | XRF (28) | Poor Knights Is |
| 4, Moore (2012:24) | ? | - | XRF (24) | Poor Knights Is |
| 5, Campbell & Trilford (2019:8) | Mid 15th to mid 16th centuries (5) | Radiocarbon (5) | XRF (8) | Urquharts Bay |
| a, Phear et al. (2019:i) | Early (?) 14th to 19th centuries (ii) | Radiocarbon (ii) | XRF (i) | Matakana |
| b, Campbell et al. (2019:32) | 1430–1485 (38) | Radiocarbon (30) | XRF (32) | Auckland |

**Appendix 6.** References citing finds of **Fanal Island** obsidian, assigned using X-ray fluoresence, within Te Tai Tokerau, together with likely era. Indicative age is the date-range/period of the layer, provided by the author(s), in which the item was located.

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|  | **Apparent era (dark shading, mainly pre-1500; light shading, mainly post-1500; medium shading, transitional)** | **Lithic assignment** | **Location** |
|  | **Indicative age (page)** | **Method (page)** | **Method (page)** |  |
| 1, Moore & Coster (2015:8)  | Late 15th to 18th centuries (1) | Radiocarbon (4) | XRF (8, 11) | Southern Ninety Mile Bch |
| 2, Booth et al. (2018:15) | ? | - | XRF (15) | Whiorau Bay  |
| 3, McCoy et al. (2010:177) | Classic Period (177) | Radiocarbon (presumably) (177) | XRF  | Pouerua; based on Seelenfreund & Bollong (1989) assignment |
| 4, McCoy et al. (2014:472) | 1400–1600 (472) | Mainly radiocarbon (469) | XRF (469) | Pouerua |
| 5, Hill & Campbell (2009:7) | 1650–1810 (9) | Radiocarbon (9) | XRF (7) | Oakura |
| 6, Moore (2012:24) | ? | - | XRF (24) | Poor Knights Is |
| 7, Robinson (2016:317) | Probably late period (317) | Mainly near-absence Mayor I obsidian (317) | XRF (28) | Poor Knights Is |
| 8, McCoy & Carpenter (2014:8) | 1500–1769 (1, 2) | Radiocarbon + taxa (2) | XRF (4) | Bream Head |
| 9, Harris (2012:9) | Late 15th to mid-17th centuries (11) | Radiocarbon (11) | XRF (9) | Urquharts Bay |
| 10, Moore (2012:24) | ? | - | XRF (24) | Hen and Chicken Is |

**Appendix 7.** References citing finds of **Great Barrier Island** obsidian, assigned using X-ray fluoresence, within Te Tai Tokerau, together with likely era. Indicative age is the date-range/period of the layer, provided by the author(s), in which the item was located.

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|  | **Apparent era (dark shading, mainly pre-1500; light shading, mainly post-1500; medium shading, transitional)** | **Lithic assignment** | **Location** |
|  | **Indicative age (page)** | **Method (page)** | **Method (page)** |  |
| 1, Moore & Coster (2015:8)  | Late 15th to 18th centuries (1) | Radiocarbon (4) | XRF (8, 11) | Southern Ninety Mile Bch |
| 2, McCoy et al. (2010:177) | Classic Period (177) | Radiocarbon (presumably) (177) | XRF  | Pouerua; based on Seelenfreund & Bollong (1989) assignment |
| 3, McCoy et al. (2014:472) | 1600–1769 (472) | Radiocarbon (469) | XRF (470) | Pouerua |
| 4, McCoy et al. (2019) | ? | - | XRF | Mangahawea & Urupukapuka |
| 5, Robinson (2016:317) | Probably late period (317) | Mainly near-absence Mayor I obsidian (317) | XRF (28) | Poor Knights Is |
| 6, Harris (2012:9) | Late 15th to mid-17th centuries (11) | Radiocarbon (11) | XRF (9) | Urquharts Bay |
| 7, Phillips & Druskovich (2009, Addendum:6)  | 1520–1650 (29) | Radiocarbon (29) | XRF (Addendum:6) | Urquharts Bay |
| 8, McCoy & Carpenter (2014:8) | 1500–1769 (1, 2) | Radiocarbon + taxa (2) | XRF (4) | Bream Head |
| 9, Turner et al. (2010:94) | 1500–1700 (ii) | Radiocarbon (ii) | XRF (89) | Puwera; also Hoare (nd:47) & Kerrigan (2008) |

**Appendix 8.** References citing finds of **Coromandel (Hahei, Cooks Beach, Tairua, ‘Coromandel’)** obsidian, assigned using X-ray fluoresence, within Te Tai Tokerau, together with likely era. Indicative age is the date-range/period of the layer, provided by the author(s), in which the item was located; italics indicate undated sites from Figure 1 presumed to be pre-1500.

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|  | **Apparent era (dark shading, mainly pre-1500; light shading, mainly post-1500; medium shading, transitional)** | **Lithic assignment** | **Location** |
|  | **Indicative age (page)** | **Method (page)** | **Method (page)** |  |
| *1, Moore (2012:22)*  | *?* | *-* | *XRF (22)* | *Waikuku Bch* |
| 2, Moore & Coster (2015:8) | Late 15th to 18th (1) | Radiocarbon (4)  | XRF (8, 11) | Ninety Mile Bch  |
| 3, Phillipps et al. (2016:113,118) | ~late 14th century (107) | Radiocarbon (in Allen 2006:50) | XRF (108) | Tauroa Point |
| 4, Booth et al. (2018:13) | ? | - | XRF (13) | Whangaroa |
| 5, McCoy et al. (2019) | ? | - | XRF | Paeroa Pa  |
| 6, McCoy et al. (2010:175) | Classic Period (175) | Taxa present (175) | XRF (175) | Urupukapuka |
| 7, Booth et al. (2018:14,15) | ? | - | XRF (13,15) | Whiorau Bay |
| 8, McCoy et al. (2010:177) | Classic Period (177) | Radiocarbon (presumably) (177) | XRF  | Pouerua; based on Seelenfreund & Bollong (1989) assignment |
| 9, Hill & Campbell (2009:7) | 1650–1810 (9) | Radiocarbon (9) | XRF (7) | Oakura |
| 10, Phillips & Druskovich (2009, Addendum:6)  | 1520–1650 (29) | Radiocarbon (29) | XRF (Addendum:6) | Urquharts Bay |
| 11, Harris (2012:9) | Late 15th to mid-17th centuries (11) | Radiocarbon (11) | XRF (9) | Urquharts Bay |
| 12, Turner et al. (2010:94) | 1500–1700 (ii) | Radiocarbon (ii) | XRF (89) | Puwera; also Hoare (nd:47) & Kerrigan (2008) |

**Appendix 9.** References citing finds of **Mayor Island** obsidian, assigned using X-ray fluoresence, within Te Tai Tokerau, together with likely era. Indicative age is the date-range/period of the layer, provided by the author(s), in which the item was located; italics indicate undated sites from Figure 1 presumed to be pre-1500.

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|  | **Apparent era (dark shading, mainly pre-1500; light shading, mainly post-1500; medium shading, transitional)** | **Lithic assignment** | **Location** |
|  | **Indicative age (page)** | **Method (page)** | **Method (page)** |  |
| *1, Booth et al. (2018:13)*  | *?* | *-* | *XRF (13)* | *Tom Bowling Bay* |
| 2, L. Furey pers. comm. | Early | *-* | XRF | Twilight Bay |
| 3, Seelenfreund & Bollong (1989:180) | Early (180) | Radiocarbon (173–174) | XRF (174) | Houhora |
| 4, Moore & Coster (2015:8) | Late 15th to 18th centuries(1) | Radiocarbon (4) | XRF (8) | Southern Ninety Mile Bch |
| 5, Phillipps et al. (2016:113,118) | ~late 14th century (107) | Radiocarbon (in Allen 2006:50) | XRF (108) | Tauroa Point |
| 6, Booth et al. (2018:13)  | ? | - | XRF (13) | Berghan Pt to Tikitiki |
| 7, Booth et al. (2018:15)  | ? | - | XRF (15) | W and E Bay of Islands |
| 8, McCoy et al. (2019) | 1400–1500 (McCoy & Ladefoged 2012:3)  | Radiocarbon (McCoy & Ladefoged 2012:3)  | XRF (McCoy & Ladefoged 2012:6) | Patunui |
| 9, McCoy et al. (2019) | ? | - | XRF | Mangahawea Bay & Paeroa Pa |
| 10, McCoy et al. (2010:175) | Classic Period (175) | Taxa present (175) | XRF (175) | Urupukapuka; also McCoy et al. (2019) |
| 11, Seelenfreund & Bollong (1989:180) | Late (180) | Radiocarbon (173–174) | XRF (174) | Pouerua |
| 12, McCoy et al. (2010:178) | Classic Period (178) | Radiocarbon (presumably) (177) | XRF  | Pouerua; based on Seelenfreund & Bollong (1989) assignment |
| 13, McCoy et al. (2014:472) | 1400–1600 (472) | Radiocarbon (469) | XRF (470) | Pouerua |
| 14, McCoy et al. (2014:472) | 1600–1769 (472) | Radiocarbon (469) | XRF (470) | Pouerua |
| *15, Booth et al. (2018:13)*  | *?* | *-* | *XRF (13)* | *Mitimiti* |
| 16, Robinson (2016:317) | Probably late period (317) | Mainly near-absence Mayor I obsidian (317) | XRF (28) | Poor Knights Is |
| 17, Harris (2012:9) | Late 15th to mid-17th centuries (11) | Radiocarbon (11) | XRF (9) | Urquharts Bay |
| 18, Phillips & Druskovich (2009:28) | 1520–1650 (29) | Radiocarbon (29) | XRF (?) (28) | Urquharts Bay  |
| 19, McCoy & Carpenter (2014:8) |  1500–1769 (1, 2) | Radiocarbon + taxa (2) | XRF (4) | Bream Head |
| 20, Turner et al. (2010:94) | 1500–1700 (ii) | Radiocarbon (ii) | XRF (89) | Puwera; also Hoare (nd) & Kerrigan (2008) |

**Appendix 10.** References citing finds of **Taupo Volcanic Zone** obsidian, assigned using X-ray fluoresence, within Te Tai Tokerau; none had associated dates.

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|  | **Lithic assignment** | **Location** |
|  | **Method (page)** |  |
| 1, McCoy et al. (2014:472) | XRF (470) | Pouerua |
| 2, McCoy et al. (2019) | XRF  | Paeroa Pa |
| 3, McCoy et al. (2019) | XRF  | Urupukapuka Pa |

**Appendix 11.** References citing finds of **Nelson/Marlborough argillite** within Te Tai Tokerau, together with likely era. Because Turner’s (2000) records of precise locations for individual items listed in her Table 6.2 could not be located, boundaries extropolated from descriptions on pages 336–7,347–8 are used. Some published records here undoubtedly involve double-counting that is essentially unresolvable (particularly between Turner [2000] and Prickett [1989], and Turner [2000] and Furey [2002]). BWC, Booth Whanau Collection, Waitangi Museum; RWC, Rewha Whanau Collection, Rawhiti. Indicative age is the date-range/period of the layer, provided by the author(s), in which the item was located; italics indicate undated sites from Figure 1 presumed to be pre-1500.

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|  | **Apparent era (dark shading, mainly pre-1500; light shading, mainly post-1500; medium shading, transitional)** | **Lithic assignment** | **Location** |
|  | **Indicative age (page)** | **Method (page)** |  |  |
| 1, Prickett (1989:146)  | ? | - | N. Prickett | Numerous Far-North sites |
| *2, BWC, adzes or part-adzes 72T35,176,177,183* | *?* | *-* | *Botica* | *Tom Bowling Bay* |
| *3, BWC, part-adze 53S4* | *?* | *-* | *Botica* | *Spirits Bay* |
| 4, Turner (2000:428) | ? | - | Turner | Far North ‘North Cape’ |
| *5, Moore & Coster (2015:2,4)* | *?* | *-* | *‘argillite’* | *Te Arai, Ninety Mile Bch* |
| 6, Turner (2000:462); Furey (2002:97) | Early (Furey 2002:35) | Radiocarbon (Furey 2002:35) | K. Prickett, Turner | Houhora |
| 7a, Turner (2000:428) | ? | - | Turner | Far North ‘Te Aupouri’ |
| 7b, Turner (2000:428) | ? | - | Turner | Far North ‘East Coast + Mt Camel’ |
| 8, BWC, part-adze 55S5 | ? | - | Botica | Whangaroa Hbr |
| 9, BWC, adze parts 74W17, 31M5 | ? | - | Botica | Mahinepua/Matauri Bay |
| 10, BWC, part-adze 69T4 | ? | - | Botica | Takou Bay |
| 11, BWC, adze 45O2 | ? | - | Botica | Okura R |
| 12, BWC, adze 18K1 | ? | - | Botica | Kaikohe |
| 13, Brassey (1985:50) | ? | - | K. Prickett | Pouerua 505 |
| 14, Moore et al. (1979:60–1,77) | ? | - | Simmons | Purerua Pen |
| 15, Turner (2000:342) | Late (342) | Occupied in 1772 (342) | Turner (?) | Paeroa Pa |
| 16, RWC, adzes or part-adzes RW7,9,12,15,17,31,43,49,59,64 | ? | - | J. Booth | Eastern Bay of Islands |
| 17, BWC, part-adze 83W2 | ? | - | Botica | Whangaruru |
| 18, Turner (2000:428) | ? | - | Turner | Far North ‘Sth East Coast’ |
| 19, Robinson (2016:324) | Probably late (317) | Mainly near-absence Mayor I obsidian (317) | Robinson  | Poor Knights Is |
| *20, BWC, adzes or part-adzes 24M4,5,7,17,21* | *?* | *-* | *Botica* | *Mitimiti* |
| 21, Turner (2000:347,462) | ? | - | Turner | Hokianga |
| 22, Turner (2000:428,462) | ? | - | Turner | Far North ‘Sth West Coast’ |
| 23, Nevin (1984:33) | ? | - | Duff | Whangarei Hbr |
| *24, Nevin (1984:33)* | *?* | *-* | *Nevin (?)* | *Smugglers Bay* |
| 25, Turner (2000:428) | ? | - | Turner  | Mid North ‘East Coast’ |
| 26, Turner (2000:129) | ? | - | Turner  | Pouto |
| 27, Turner (2000:428) | ? | - | Turner | Mid North ‘Kaipara Heads’ & ‘Inner Kaipara Harb.’ |

**Appendix 12.** References citing finds of **Tahanga basalt** within Te Tai Tokerau, together with likely era. Identifications by Moore (1975) and NAR (1997) are ‘possible’ or ‘probable’. Because Turner’s (2000) records of precise locations for individual items listed in her Table 6.2 could not be located, boundaries extropolated from descriptions on pages 336–337 and 347–348 are used. Some published records here undoubtedly involve double-counting that is essentially unresolvable (particularly between Turner [2000], Moore [1975], Best (1977) and Furey [2002]). BWC, Booth Whanau Collection, Waitangi Museum; RWC, Rewha Whanau Collection, Rawhiti. Indicative age is the date-range/period of the layer, provided by the author(s), in which the item was located; italics indicate undated sites from Figure 1 presumed to be pre-1500.

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|  | **Apparent era (dark shading, mainly pre-1500; light shading, mainly post-1500**  | **Lithic assignment**  | **Location** |
|  | **Indicative age (page)** | **Method (page)** |  |  |
| *1, BWC, adze parts 72T1, 72T97/98; Moore et al. (1979:57,77)* | *?* | *-* | *Botica, Simmons* | *Tom Bowling Bay* |
| *2, BWC, adze parts 72T178, 72T179* | *?* | *-* | *Botica* | *Waikuku Bch* |
| *3, Moore (1975:33)* | *?* | *-* | *Moore* | *Spirits Bay* |
| 4, Moore et al. (1979:57,77) | ? | - | Simmons | Scott Point |
| 5, Turner (2000:428)  | ? | - | Turner | Far North ‘North Cape’ |
| 6, Moore et al. (1979:57,77) | ? | - | Coster | The Bluff |
| 7, Moore (1975:33); Best (1977:316-318); Turner & Botica (1994:13); Turner (2000:462); Furey (2002:97) | Early (Furey 2002:35) | Radiocarbon (Furey 2002:35) | Moore, Turner, Botica, K. Prickett, Best | Houhora |
| 8, Turner (2000:428) | ? | - | Turner | Far North ‘Te Aupouri’ |
| 9, Turner (2000:428) | ? | - | Turner | Far North ‘East Coast + Mt Camel’ |
| 10, Moore (1975:33) | ? | - | Moore | Doubtless Bay area |
| 11, Moore (1975:33) | ? | - | Moore | Kaitaia area |
| 12, Phillipps et al. (2016:114) | ~late 14th century (107) | Radiocarbon (in Allen 2006:50) | Phillipps et al. | Tauroa Point |
| 13, Campbell et al. (2018) | Early (84) | Radiocarbon (84) | Campbell | Tauranga Bay |
| 14, Moore (1975:33) | ? | - | Moore | Herekino to Whangape |
| *15, BWC, adze parts 24M16, 24M115* | ? | - | *Botica* | *Mitimiti* |
| 16, Moore (1975:33);  | ? | - | Moore  | Hokianga Mouth |
| 16, Turner (2000:347,462) | ? | - | Turner | Hokianga Mouth |
| 17, Turner (2000:428) | ? | - | Turner | Far North ‘Sth West Coast’ |
| 18, BWC, adze & part 61T7, 61T23 | ? | - | Botica | Te Tii |
| 19a, Peters (1975:177); Best (1977:318–319) | Early (Peters 1975:171) | Radiocarbon (Peters 1975:171) | Best (*see* NAR 1997:20) | Hahangarua  |
| 19b, NAR (1997:38) | Early (38) | Radiocarbon (38) | Johnson | Opunga |
| *20, Best (1996:17); NAR (2011)* | ? | - | *Turner* | *Manawaora Bay* |
| 21, Moore (1975:33); Turner (2000:126); RWC adze part RW50  | ? | - | Moore, Turner | Bay of Islands |
| 22, Turner (2000:428) | ? | - | Turner | Far North ‘Sth East Coast’ |
| 23, Moore (1975:33) | ? | - | Moore | Hokianga to Kaipara  |
| 24, Turner et al. (2010:80,87) | 1500-1700 (ii) | Radiocarbon (ii) | Turner | Puwera; also Hoare (nd) & Kerrigan (2008) |
| 25, Moore (1975:33) | ? | - | Moore | Whangarei Hbr. & coast |
| 26, Moore (1975:33) | ? | - | Moore | Bream Tail |
| 27, Turner (2000:428) | ? | - | Turner  | Mid North ‘East Coast’ |
| 28, Moore (1975:33) | ? | - | Moore | North Kaipara Hbr |
| 29, Turner (2000:428) | ? | - | Turner | Mid North ‘Kaipara Heads’ & ‘Inner Kaipara Harb.’ |

**Appendix 13.** References citing finds of **Motutapu greywacke** within Te Tai Tokerau, together with likely era. Because Turner’s (2000) records of precise locations for individual items listed in Table 6.2 could not be located, boundaries extropolated from descriptions on pages 336–337 and 347–348 are used. Indicative age is the date-range/period of the layer, provided by the author(s), in which the item was located.

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|  | **Apparent era (dark shading, mainly pre-1500; light shading, mainly post-1500; medium shading, transitional)** | **Lithic assignment**  | **Location** |
|  | **Indicative age (page)** | **Method (page)** |  |  |
| 1, Turner (2000:428)  | ? | - | Turner | Far North ‘North Cape’ |
| 2, Turner (2000:462)  | 14th century (Furey 2002:35) | Radiocarbon (Furey 2002:35) | Turner | Houhora |
| 3, Turner (2000:428) | ? | - | Turner | Far North ‘Te Aupouri’ |
| 4, Turner (2000:428) | ? | - | Turner | Far North ‘East Coast + Mt Camel’ |
| 5, Campbell et al. (2018:84) | 14th century (84) | Radiocarbon (84) | Campbell | Tauranga Bay |
| 6, Turner (2000:428) | ? | - | Turner | Far North ‘Sth East Coast’ |
| 7, Turner (2000:428) | ? | - | Turner | Far North ‘Sth West Coast’ |
| 8, Turner (2000:347,462) | ? | - | Turner | Hokianga Mouth |
| 9, Robinson (2016:324) | Probably late (317) | Mainly near-absence Mayor I obsidian (317) | Robinson | Poor Knights Islands |
| 10, Turner (2000:428) | ? | - | Turner  | Mid North ‘East Coast’ |
| 11, Turner (2000:428) | ? | - | Turner | Mid North ‘Kaipara Heads’ & ‘Inner Kaipara Harb.’ |

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