
**EVOLUTIONARY GENETICS OF BARRAMUNDI
(*LATES CALCARIFER*) IN THE AUSTRALIAN REGION**

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This thesis is presented for the degree of Doctor of Philosophy of Murdoch University.

2005

I declare that this thesis is my own account of my research and contains as its main content work which has not previously been submitted for a degree at any tertiary institution.

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Without all of you, this project could never have been done!

“It’s not that evolutionary significance starts at a certain point. Your mother probably thinks you’re an evolutionarily significant unit.”

-Waples, 1991

ABSTRACT

Barramundi (*Lates calcarifer*) is a centropomid teleost with a wide distribution across the Indo Pacific. In Australia, barramundi are native to the tropical zone from Exmouth Gulf in Western Australia, across the northern part of the continent, to the Mary River in Queensland. Barramundi are protandrous hermaphrodites, and are euryhaline, with a catadromous life history. Barramundi are a valuable Australian resource, with important commercial and recreational fisheries and aquaculture production to the value of \$11 million dollars per year. Recent declines in the availability of the fish in some rivers has led to an interest in the possibility of restocking rivers with barramundi from other areas.

Determining the genetic structure of barramundi populations in Australia is important for understanding biogeographic history, and appropriate management practices for both aquaculture and recreational and commercial fishing. Previous studies have concentrated on the east coast of Australia, and have largely ignored the western populations. In this study, I obtained DNA data from barramundi populations across the Australian range of the species, as well as populations from Papua New Guinea and Indonesia. The aims of this study were to use the genetic data to determine: 1. if populations in Western Australia show genetic differences between geographic regions 2. if these populations show an ancestral split from populations in the east of Australia and 3. the ancestral origins of Australian barramundi.

Previous studies of DNA data from barramundi have discovered an east/west split occurring at the Torres Strait that was assumed to be caused by the closing of the strait during lowered sea levels. However, these studies suffered from a bias in sampling area, concentrating either on the eastern half of the range of barramundi, or on the western tip of the range. Data from these studies were combined and reanalyzed. Two major clades were discovered, with considerable biogeographic structuring, but their geographic locations did not coincide with the reported vicariance event at the Torres Strait. Instead, historical divisions among freshwater drainage systems appeared to have driven the evolutionary history of barramundi in Australia.

In order to investigate these historical divisions further, a 290 bp section of the mitochondrial DNA control region was sequenced in 284 barramundi from seven populations across the Australian geographic range of the species and from one population in Papua New Guinea and one population in Indonesia. Analyses of molecular variance within and among populations showed significant geographic structuring, based on biogeographical provinces and drainage divisions. Nested clade analyses indicated that these geographical associations were the result of restricted gene flow, range expansion, and past fragmentation events. I hypothesise that the Ord River area in the west of the continent was the ancestral source population for the rest of the species' range across Australia, with Indonesia being the most likely origin of this source. Populations of barramundi from the Pilbara region are genetically distinct and geographically isolated, with strong evidence of an ancestral divide along geographical barriers to dispersal. There is a strong association between Papua New Guinea and Australia, although further

investigations using the cytochrome b region of mitochondrial DNA indicated a more ancestral divide between the two than is currently evident, which could reflect an ancient geographical divide between the two, or could be evidence of a secondary migration route to Australia.

For a more detailed study of evolutionary processes acting on populations of barramundi in Western Australia, allelic diversity was examined at five microsatellite loci. All loci were polymorphic and genotypic frequencies conformed to Hardy-Weinberg expectations, with no significant linkage between loci evident in any population. Measures of within population diversity were significantly related to latitude, suggesting southerly migration from a northern source population. The Ord River was the most genetically diverse population, and the most likely ancestral migration source to the area, with diversity decreasing down the west coast. Although there were significant differences among populations, the nuclear microsatellite data do not indicate the same degree of genetic structuring as is evident in the mitochondrial data. This may be a consequence of rapid evolutionary change at microsatellite loci, with past separations or population differences masked by recombination and back mutation of the microsatellite alleles. However, the nature of nuclear and mitochondrial inheritance may also indicate life history differences between the sexes, where significant genetic contribution to gene flow by males and limited female gene flow may lead to preservation of maternally inherited population substructure.

The principal findings from this study are:

- There is no genetic evidence for an east/west division of barramundi populations in Australia, as suggested by previous research.
- Despite barramundi's catadromous life history, and ability to disperse through marine waters, the present genetic structure indicates a division principally among river drainages. From a population genetic viewpoint, the species can be regarded as freshwater, rather than marine.
- The most likely origin of barramundi in Australia is the Ord River region, with Indonesia as the route of migration.
- Differences in the population structure demonstrated by nuclear and mitochondrial data indicate possible life history differences between the sexes.
- Barramundi populations in different biogeographical provinces may have been substantially isolated over a long period of time, and may therefore represent independently evolving populations. This has important implications for fishery management and translocation issues for restocking rivers.

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KAR2	AACCAATAAG	-TGAATATAT	GGTGTAATG	C-ATATATAT	ATA--TGCAT	TAATCAACAT
TTGCCTGTAA	TCAAAGGACA	TATGTGCATC	-CAATGGTAC	TCGTAATAT	AATGTACACT	AACCTATAA-
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ACCAATCAGT	AGGTATTCAG	AGTGTTGACG	GTT-CTTGAT	AGTCAAGGAC	AAATACA-AT	GTGGGGGTTA
CACA						
KAR1	AACCAATAAG	-TGAGTATAT	GGTGTAATG	C-ATATATAT	AT---GCAT	TAATTAACAT
TTGCTTGTAA	TCAAAGGACA	TACGTGCATT	-CAATGGTAC	TTGTAATAT	AATGTACGGT	AACCTATAAA
TTAATGTACT	TTAAGCAATA	ATATTACATA	CTAATCATCA	GCAATAATAT	T-GAGCGTA-	GTGAGAGATC
ACCAATCAGT	AGGTATTCAG	AGTGTTGACG	GTT-CTTGAT	AGTCAAGGAC	ATACACG-GT	GTGGGGGTTA
CACA						
KAR3	AACCAATAAG	-TGAATATAT	GGTGTAATG	C-ATATATAT	A---TGCAT	TAATCAACAT
TTGCCTGTAA	TCAAAGGACA	TATGTGCATC	-CAATGGTAC	TCGTAATAT	AATGTACACT	AACCTATAA-
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ACCAATCAGT	AGGTATTCAG	AGTGTTGACG	GTT-CTTGAT	AGTCAAGGAC	AAATACA-AT	GTGGGGGTTA
CACA						
KAR4	AACCAATAAG	-TGAATATAT	GGTGTAATG	C-ATATATAT	A---TGCAT	TAATCAACAT
TTGCCTGTAA	TCAAAGGACA	TATGTGCATC	-CAATGGTAC	TCGTAATAT	AATGTACACT	AACCTATAA-
TTAATGTACT	CTAAACAATA	ATATTACATA	CTAATCATCA	GCAATAATAC	--GAGCATA-	GTGAGAGATC
ACCAATCAGT	AGGTATTCAG	AGTGTTGACG	GTT-CTTGAT	AGTCAAGGAC	AAATACA-AT	GTGGGGGTTA
CACA						
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ACCAATCAGT	AGGTATTCAG	AGTGTTGACG	GTT-CTTGAT	AGTCAAGGAC	AAATACA-AT	GTGGGGGTTA
CACA						
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CACA						
KAR7	AACCAATAAG	-TGAATATAT	GGTGTAATG	C-ATATATAT	-----GCAT	TAATCAACAT
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ACCAATCAGT	AGGTATTCAG	AGTGTTGACG	GTT-CTTGAT	AATCAAGGAC	AAATACWTAT	ATGGGGGTTA
CACA						
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ACCAATCAGT	AGGTATTCAG	AGTGTTGACG	GTT-CTTGAT	AGTCAAGGAC	AAATACA-AT	GTGGGGGTTA
CACA						
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CACA						
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TTGCTTGTA	TCAAAGGACA	TACGTGCATT	-CAATGGTAC	TTGTAATATAC	AATGTACGGT	AACCTATAAA
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CACA						
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CACA						
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CACA						
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CACA						
KAR14	AACCAATAAG	-TGAATATAT	GGTGTAATG	C-ATATATAT	A----TGCAT	TAATCAACAT
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CACA						
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CACA						
MAR2	AACCAATAAG	-TGAGTATAT	GGTGTAATA	C-ATATATAT	AT----GCAT	TAATTAACAT
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CACA						
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CACA						
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CACA						
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CACA						
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CACA						
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CACA						
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CACA						

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ACCAATCAGT	AGGTATTCAG	AGTGTGACG	GTT-CTTGAT	AGTCAGGGAC	AGATACG-GT	GTGGGGGT-A
CACA						
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ACCAATCAGT	AGGTATTCAG	AGTGTGACG	GTT-CTTGAT	AGTCAAGGAC	AGATACG-GT	GTGGGGGT-A
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CACA						
MAR13	AACCAATAAG	-TGAGTATAT	GGTGTAATG	C-ATATATAT	AT---GCAT	TAATTAACAT
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ACCAATCAGT	AGGTATTCAG	AGTGTGACG	GTTT-CTTGAT	AGTCAAGGAC	AGACACG-GT	GTGGGGGCTA
CACA						
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CACA						
MAR15	AACCAATAAG	-TGAGTGTAT	GGTGTAATG	C-ATATATAT	AT---GCAT	TAATCAACAT
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CACA						
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ACCAATCAGT	AGGTATTCAG	AGTGTTAACG	GTT-CTTGAT	AGTCAAGGAC	AAATACA-AT	GTGGGGGTTA
CACA						
MAR17	AACCAATAAG	-TGAGTATAT	GGTGTAATG	C-ATATAT--	--AT--GCAT	TAATCAACAC
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CACA						
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CACA						
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CACA						
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CACA						
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CACA						
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CACA						
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ACCAATCAGT CACA	AGGTATTCAG	AGTGTTCAGC	GTT-CTTGAT	AGTCAAGGAC	AGACACG-GT	GTGGGGGTTA
MAR24 TTGCTTGTA TTAATGTACT	AACCAATAAG TCAAAGGACA TTAAGCAATA	-TGAGTATAT TATGTGCATT ATATTACATA	GGTGCAAATG -CAATGGTAC CTAATCATCA	C-ATATATAT TCGTAATAT GCAATAATAT	AT----GCAT AATGTACGGT T-GAGCGTA-	TAATTAACAT AACCTATAA- GTGAGAGATC
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MAR25 TTGCTTGTA TTAATGTACT	AACCAATAAG TCAAAGGACA TTAAGCGATA	-TGAGTATAT TATGTGCATT ATATTACATA	GGTGTAATG -CAATGGTAC CTAATCATCA	C-ATATATAT TCGTAATAT GCAATAATAT	AT----GCAT AATGTACGGT T-GAGCGTA-	TAATTAACAT AACCTATAA- GTGAGAGATC
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ORD1 TTACTTGTA TTAATGTACT	AACCAATAAG TCAAAGGACA TCAAGCAATA	-TGAGTATAT TACGTGCATT ATATTACATA	GGTGTAATG -CAATGGTAC CTAATCATCA	C-ATATATAT TCGTAATAT GCAATAATAT	AT----GTAT AATGTACGGT --GAGCGTA-	TAATCAACAC AACCTATAA- GTGAGAGATC
ACCAATCAGT CACA	AGGTATTCAG	GGTGTTCAGC	GTT-CTTGAT	AGTCAAGGAC	AGATACG-GT	GTGAGGGTTA
ORD2 TTACTTGTA TTAATGTACT	AACCAATAAG TCAAAGGACA TCAAGCAATA	-TGAGTATAT TACGTGCATT ATATTACATA	GGTGTAATG -CAATGGTAC CTAATCATCA	C-ATATATAT TCGTAATAT GCAATAATAT	ATA--TGTAT AATGTACGGT --GAGCGTA-	TAATCAACAC AACCTATAA- GTGAGAGATC
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ACCAATCAGT CACA	AGGTATTCAG	AGTGTTCAGC	GTT-CTTGAT	AGTCAAGGAC	AGACACG-GT	GTGGGGGTTA
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ACCAATCAGT CACA	AGGTATTCAG	AGTGTTCAGC	GTT-CTTGAT	AGTCAAGGAC	AGATACG-GT	GTGGGGGTTA
ORD7 TTGCTTGTA TTAATGTACT	AACCAATAAG TCAAAGGACA TTAAGCAATA	-TAAGTATAT TACGTGCATT ATATTACATA	GGTGTGAATG -CAATGGTAC CTAATCATCA	C-ATATATAT TCGTAATAT GCAATAATAT	AT----GTAT AATGTACGGT --GAGCGTA-	TAATCAACAT AACCTATAA- GTGAGAGATC
ACCAATCAGT CACA	AGGTATTCAG	AGTGTTCAGC	GTT-CTTGAT	AGTCAAGGAC	AGATACG-GT	GTGGGGGTTA
ORD8 TTACTTGTA TCAATGTACT	AACCAATAAG TCAAAGGGCA CTAAACAATA	-TGAGTGTAT TATGTGCATT ATATTACATA	GGTGTAATG -CAATGGCAC CTAATCATCA	C-ATATATAT TCGTAATAT GCAATAACAC	AT----GCAT AATGTACAGT --GAGCATA-	TAATCAACAT AACCTATAA- GTGAGAGATC
ACCAATCAGT CACA	AGGTATTCAG	AGTGTTCAGC	GTT-CTTGAT	AGTCAAGGAC	AAATACA-AT	GTGGGGGTTA
ORD10 TTACTTGTA TTAATGTACT	AACCAATAAG TCAAAGGACA TCAAGCAATA	-TGAGTATAT TACGTGCATT ATATTACATA	GGTGTAATG -CAATGGTAC CTAATCATCA	C-ATATATAT TCGTAATAT GCAATAATAT	AT----GTAT AATGTACGGT --GAGCGTA-	TAATCAACAC AACCTATAA- GTGAGAGATC
ACCAATCAGT CACA	AGGTATTCAG	GGTGTTCAGC	GTT-CTTGAT	AGTCAAGGAC	AGATACG-GT	GTGAGGGTTA
ORD11 TTACTTGTA	AACCAATAAG	-TGAGTGTAT	GGTGTAATG	C-ATATATAT	AT----GCAT	TAATCAACAT

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TTGCTTGTAACCAATCAGT CACACACA	TCAAAGGACACTAAACAATA AGGTATTCAG	TATGTGCATT ATATTACATA AGTGTGACG	-CAATGGTAC CTAATCATCA GTC-CTTGAT	TCGTAAATAT GCAATAACAC AGTCAAGGAC	AATGTACAGT --GAGCATA- AAATACA-AT	AACTTATAA- GTGAGAGATC GTGGGGGTTA
ORD12 TTACTTGTAACCAATCAGT CACACACA	AACCAATAAG TCAAAGGGCA CTAAACAATA AGGTATTCAG	-TGAGTGTAT TATGTGCATT ATATTACATA AGTGTGACG	GGTGTAAATG -CAATGGCAC CTAATCATCA GTT-CTTGAT	C-ATATATAT TCGTAAATAT GCAATAACAC AGTCAAGGAC	AT----GCAT AATGTACAGT --GAGCATA- AAATACA-AT	TAATCAACAT AACCTATAA- GTGAGAGATC GTGGGGGTTA
ORD9 TTACTTGTAACCAATCAGT CACACACA	AACCAATAAG TCAAAGGACA TCAAGCAATA AGGTATTCAG	-TGAGTATAT TACGTGCATT ATATTACATA GGTGTGACG	GGTGTAAATG -CAATGGTAC CTAATCATCA -TT-CTTGAT	C-ATATATAT TCGTAAATAC GCAATAATAT AGTCAAGGAC	ATAT--GTAT AATGTACGGT --GAGCGTA- AGATACG-GT	TAATCAACAC AACCTATAA- GTGAGAGATC GTGGGGGT-A
ORD13 TTGCTTGTAACCAATCAGT CACACACA	AACCAATAAG TCAAAGGACA TTAAGCAATA AGGTATTCAG	-TAAGTATAT TACGTGCATT ATATTACATA AGTGTGACG	GGTGTGAATG -CAATGGTAC CTAATCATCA GTT-CTTGAT	C-ATATATAT TCGTAAATAC GCAATAATAT AGTCAAGGAC	AT----GTAT AATGTACGGT --GAGCGTA- AGATACG-GT	TAATCAACAT AACCTATAA- GTGAGAGATC GTGGGGGTTA
ORD14 TTACTTGTAACCAATCAGT CACACACA	AACCAATAAG TCAAAGGGCA CTAAACAATA AGGTATTCAG	-TGAGTGTAT TATGTGCATT ATATTACATA AGTGTGACG	GGTGTAAATG -CAATGGCAC CTAATCATCA GTT-CTTGAT	C-ATATATAT TCGTAAATAT GCAATAACAC AGTCAAGGAC	AT----GCAT AATGTACAGT --GAGCATA- AAATACA-AT	TAATCAACAT AACCTATAA- GTGAGAGATC GTGGGGTTTA
ORD15 TTACTTGTAACCAATCAGT CACACACA	AACCAATAAG TCAGAGGACA TCAAGCAATA AGGTATTCAG	-TGAGTATAT TACGTGCATT ATATTACATA GGTGTGACG	GGTGTAAATG -CAATGGTAC CTAATCATCA GTT-CTTGAT	C-ATATATAT TCGTAAATAC GCAATAATAT AGTCAAGGAC	AT----GTAT AATGTACGGT --GAGCGTA- AGATACG-GT	TAATCAACAC AACCTATAA- GTGAGAGATC GTGGGGGTTA
ORD16 TTACTTGTAACCAATCAGT CACACACA	AACCAATAAG TCAAAGGACA TCAAGCAATA AGGTATTCAG	-TGAGTATAT TACGTGCATT ATATTACATA GGTGTGACG	GGTGTAAATG -CAATGGTAC CTAATCATCA GTT-CTTGAT	C-ATATATAT TCGTAAATAC GCAATAATAT AGTCAAGGAC	AT----GTAT AATGTACGGT --GAGCGTA- AGATACG-GT	TAATCAACAC AACCTATAA- GTGAGAGATC GTGAGGGTTA
ORD17 TTGCTTGTAACCAATCAGT CACACACA	AACCAATAAG TCAAAGGACA TTAAGCAATA AGGTATTCAG	-TGAGTATAT TACGTGCATT ATATTACATA AGTGTGACG	GGTGTAAATG -CAATGGTAC CTAATCATCA GTTT-CTTGAT	C-ATATATAT TCGTAAATAC GCAATAATAT AGTCAAGGAC	ATAT--GCAT AATGTACGGT T-GAGCGTA- AGACACG-GT	TAATTAACAT AACCTATAA- GTGAGAGATC GTGGGGGTTA
ORD18 TTGCTTGTAACCAATCAGT CACACACA	AACCAATAAG TCAAAGGACA TTAAGCAATA AGGTATTCAG	-TAAGTATAT TACGTGCATT ATATTACATA AGTGTGACG	GGTGTGAATG -CAATGGTAC CTAATCATCA GTT-CTTGAT	C-ATATATAT TCGTAAATAC GCAATAATAT AGTCAAGGAC	AT----GTAT AATGTACGGT --GAGCGTA- AGATACG-GT	TAATCAACAT AACCTATAA- GTGAGAGATC GTGAGGGTTA
ORD19 TTGCCTGTAACCAATCAGT CACACACA	AACCAATAAG TCAAAGGACA CTAAACAATA AGGTATTCAG	-TGAATATAT TATGTGCATC ATATTACATA AGTGTGACG	GGTGTAAATG -CAATGGTAC CTAATCATCA GTT-CTTGAT	C-ATATATAT TCGTAAATAT GCAATAATAC AGTCAAGGAC	ATA--TGCAT AATGTACACT --GAGCATA- AAATACA-AT	TAATCAACAT AACCTATAA- GTGAGAGATC GTGGGGGTTA
ORD20 TTGCTTGTAACCAATCAGT CACACACA	AACCAATAAG TCAAAGGACA TTAAGCAATA AGGTATTCAG	-TAAGTATAT TACGTGCATT ATATTACATA AGTGTGACG	GGTGTGAATG -CAATGGTAC CTAATCATCA GTT-CTTGAT	C-ATATATAT TCGTAAATAC GCAATAATAT AGTCAAGGAC	AT----GTAT AATGTACGGT --GAGCGTA- AGATACG-GT	TAATCAACAT AACCTATAA- GTGAGAGATC GTGGGGGTTA
ORD21 TTGCCTGTAACCAATCAGT CACACACA	AACCAATAAG TCAAAGGACA CTAAACAATA AGGTATTCAG	-TGAATATAT TATGTGCATC ATATTACATA AGTGTGACG	GGTGTAAATG -CAATGGTAC CTAATCATCA GTT-CTTGAT	C-ATATATAT TCGTAAATAT GCAATAATAC AGTCAAGGAC	AT----GCAT AATGTACACT --GAGCATA- AAATACA-AT	TAATCAACAT AACCTATAA- GTGAGAGATC GTGGGGGTTA
ORD22 TTGCTTGTAACCAATCAGT CACACACA	AACCAATAAG TCAAAGGACA TTAAGCAATA AGGTATTCAG	-TGAGTATAT TACGTGCATT ATATTACATA AGTGTGACG	GGTGTAAATG -CAATGGTAC CTAATCATCA GTT-CTTGAT	C-ATATACAT TCGTAAATAC GCAATAATAT AGTCAAGGAC	AT----GCAT AATGTACGGT T-GAGCGTA- AGACACG-GT	TAATTAACAT AACCTATAA- GTGAGAGATC GTGGGGGTTA
ORD23 TTGCCTGTAACCAATCAGT	AACCAATAAG TCAAAGGACA CTAAACAATA AGGTATTCAG	-TGAATATAT TATGTGCATC ATATTACATA AGTGTGACG	GGTGCAGACG -CAATGGTAC CTAATCATCA GTT-CTTGAT	C-ATATATAT TCGTAAATAT GCAATAATAC AGTCAAGGAC	AT----GCAT AATGTACACT --GAGCATA- AAATACA-AT	TAATCAACAT AACCTATAA- GTGAGAGATC GTGGGGGTTA

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CACA						
ORD24	AACCAATAAG	-TGAGTATAT	GGTGTAATG	C-ATATATAT	AT----GCAT	TAATTAACAT
TTGCTTGTA	TCAAAGGACA	TACGTGCATT	-CAATGGTAC	TCGTAATATAC	AATGTACGGT	AACCTATAA-
TTAATGTACT	TTAAGCAATA	ATATTACATA	CTAATCATCA	GCAATAATAT	T-GAGCGTA-	GTGAGAGATC
ACCAATCAGT	AGGTATTCAG	AGTGTGACG	GTTCTTGAT	AGTCAAGGAC	AGACACG-GT	GTGGGGGTTA
CACA						
ORD25	AACCAATAAG	-TGAGTGTAT	GGTGTAATG	C-ATATATAT	AT----GCAT	TAATCAACAT
TTACTTGTAA	TCAAAGGACA	TATGTGCATT	-CAATGGCAC	TCGTAATATAT	AATGTACAGT	AACCTATAA-
TCAATGTACT	CTAAACAATA	ATATTACATA	CTAATCATCA	GCAATAACAC	--GAGCATA-	GTGAGAGATC
ACCAATCAGT	AGGTATTCAG	AGTGTGACG	GTTCTTGAT	AGTCAAGGAC	AAATACA-AT	GTGGGGGTTA
CACA						
ORD26	AACCAATAAG	-TGAGTATAT	GGTGTAATG	C-ATATATAT	AT----GTAT	TAATCAACAC
TTACTTGTAA	TCAAAGGACA	TACGTGCATT	-CAATGGTAC	TCGTAATATAC	AATGTACGGT	AACCTATAA-
TTAATGTACT	TCAAGCAATA	ATATTACATA	CTAATCATCA	GCAATAATAT	--GAGCGTA-	GTGAGAGATC
ACCAATCAGT	AGGTATTCAG	GGTGTGACG	GTTCTTGAT	AGTCAAGGAC	AGATACG-GT	GTGAGGGTTA
CACA						
ORD27	AACCAATAAG	-TGAGTATAT	GGTGTAATG	C-ATATATAT	AT----GCAT	TAATTAACAT
TTGCTTGTA	TCAAAGGACA	TACGTGCATT	-CAATGGTAC	TCGTAATATAC	AATGTACGGT	AACCTATAA-
TTAATGTACT	TTAAGCAATA	ATATTACATA	CTAATCATCA	GCAATAATAT	T-GAGCGTA-	GTGAGAGATC
ACCAATCAGT	AGGTATTCAG	AGTGTGACG	GTTCTTGAT	AGTCAAGGAC	AGATACG-GT	GTGGGGGTTA
CACA						
ORD28	AACCAATAAG	-TGAGTATAT	GGTGTAATG	C-ATATATAT	AT----GTAT	TAATCAACAC
TTACTTGTAA	TCAAAGGACA	TACGTGCATT	-CAATGGTAC	TCGTAATATAC	AATGTACGGT	AACCTATAA-
TTAATGTACT	TCAAGCAATA	ATATTACATA	CTAATCATCA	GCAATAATAT	--GAGCGTA-	GTGAGAGATC
ACCAATCAGT	AGGTATTCAG	GGTGTGACG	GTTCTTGAT	AGTCAAGGAC	AGATACG-GT	GTGAGGGTTA
CACA						
ORD29	AACCAATAAG	-TGAGTATAT	GGTGTAATG	C-ATATATAT	ATATATGTAT	TAATCAACAC
TTACTTGTAA	TCAAAGGACA	TACGTGCATT	-CAATGGTAC	TCGTAATATAC	AATGTACGGT	AACCTATAA-
TTAATGTACT	TCAAGCAATA	ATATTACATA	CTAATCATCA	GCAATAATAT	--GAGCGTA-	GTGAGAGATC
ACCAATCAGT	AGGTATTCAG	GGTGTGACG	GTTCTTGAT	AGTCAAGGAC	AGATACA-GT	GTGGGGGTTA
CACA						
ORD30	AACCAATAAG	-TGAATATAT	GGTGTAATG	C-ATATATAT	ATA--TGCAT	TAATCAACAT
TTGCCTGTAA	TCAAAGGACA	TATGTGCATC	-CAATGGTAC	TCGTAATATAT	AATGTACACT	AACCTATAA-
TCAATGTACT	CTAAACAATA	ATATTACATA	CTAATCATCA	GCAATAATAC	--GAGCATA-	GTGAGAGATC
ACCAATCAGT	AGGTATTCAG	AGTGTGACG	GTTCTTGAT	AGTCAAGGAC	AAATACA-AT	GTGGGGGTTA
CACA						
ORD31	AACCAATAAG	-TGAGTATAT	GGTGTAATG	C-ATATATAT	AT----GCAT	TAATTAACAT
TTGCTTGTA	TCAAAGGACA	TACGTGCATT	-CAATGGTAC	TCGTAATATAC	AATGTACGGT	AACCTATAA-
TTAATGTACT	TTAAGCAATA	ATATTACATA	CTAATCATCA	GCAATAATAT	T-GAGCGTA-	GTGAGAGATC
ACCAATCAGT	AGGTATTCAG	AGTGTGACG	GTTCTTGAT	AGTCAAGGAC	AGACACG-GT	GTGGGGGTTA
CACA						
ORD32	AACCAATAAG	-TGAGTATAT	GGTGTAATG	C-ATATATAT	ATATATGTAT	TAATCAACAC
TTACTTGTAA	TCAAAGGACA	TACGTGCATT	-CAATGGTAC	TCGTAATATAC	AATGTACGGT	AACCTATAA-
TTAATGTACT	TCAAGCAATA	ATATTACATA	CTAATCATCA	GCAATAATAT	--GAGCGTA-	GTGAGAGATC
ACCAATCAGT	AGGTATTCAG	GGTGTGACG	GTTCTTGAT	AGTCAAGGAC	AGATACA-GT	GTGGGGGTTA
CACA						
ORD33	AACCAATAAG	-TGAGTATAT	GGTGTAATG	C-ATATATAT	ATATATGTAT	TGATCAACAC
TTACTTGTAA	TCAAAGGACA	TACGTGCATT	-CAATGGTAC	TCGTAATATAC	AATGTACGGT	AACCTATAA-
TTAATGTACT	TCAAGCAATA	ATATTACATA	CTAATCATCA	GCAATAATAT	--GAGCGTA-	GTGAGAGATC
ACCAATCAGT	AGGTATTCAG	GGTGTGACG	GTTCTTGAT	AGTCAAGGAC	AGATACG-GT	GTGGGGGTTA
CACA						
ORD34	AACCAATAAG	-TAAGTATAT	GGTGTGAATG	C-ATATATAT	AT----GTAT	TAATCAACAT
TTGCTTGTA	TCAAAGGACA	TACGTGCATT	-CAATGGTAC	TCGTAATATAC	AATGTACGGT	AACCTATAA-
TTAATGTACT	TTAAGCAATA	ATATTACATA	CTAATCATCA	GCAATAATAT	--GAGCGTA-	GTGAGAGATC
ACCAATCAGT	AGGTATTCAG	AGTGTGACG	GTTCTTGAT	AGTCAAGGAC	AGATACG-GT	GTGGGGGTTA
CACA						
ORD35	AACCAATAAG	-TGAGTATAT	GGTGTAATG	C-ATATATAT	ATATATGTAT	TAATCAACAC
TTACTTGTAA	TCAAAGGACA	TACGTGCATT	-CAATGGTAC	TCGTAATATAC	AATGTACGGT	AACCTATAA-
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ACCAATCAGT	AGGTATTCAG	GGTGTGACG	GTTCTTGAT	AGTCAAGGAC	AGATACA-GT	GTGGGGGTTA
CACA						
PNG2	AACCAATAAG	-TAAGTGTAT	GGTGTAATG	C-ATATATAT	AT----GTAT	TAATCAACAT
TTGCTTGTA	TCAAAGGACA	TACGTGCATT	-CAATGGTAC	TCGTAATATAC	AATGTACGGT	AACCTATAA-
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ACCAATCAGT	AGGTATTCAG	AGTGTGACG	GTTCTTGAT	AGTCAAGGAC	AGATATG-GT	GTGGGGGTTA
CACA						
PNG1	AACCAATAAG	-TGAGTATAT	GGTGTAATG	C-ATATATAT	AT----GCAT	TAATTAACAT
TTGCTTGTA	TCAAAGGACA	TACGTGCATT	-CAATGGTAC	CCGTAATATAC	AATGTACGGT	AGCCTATAA-

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ACCAATCAGT CACA	AGGTATTCAG	AGTGTGGACG	GTT-CTTGAT	AGTCAAGGAC	AGATACG-AT	GTGGGGGTTA
PNG31 TTGCCTGTAA	AACCAATAAG TCAAAGGACA	-TGAGTATAT TGCCTGCATT	GGTGTAATG ACAATGGTAC	C-ATATATAT TCGTAATAT	AT---GTAT AATGTACGGT	TAATCAACAT AACCTATAA-
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PSM1 TTGCCTGTAA	AACCAATAAG TCAAAGGACA	-TGAATATAT TATGTGCATC	GGTGTAATG -CAATGGTAC	C-ATATATAT TCGTAATAT	ATA--TGCAT AATGTACACT	TAATCAACAT AACCTATAAAA
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PSM2 TTGCCTGTAA	AACCAATAAG TCAAAGGACA	-TGAATATAT TATGTGCATC	GGTGTAATG -CAATGGTAC	C-ATATATAT TCGTAATAT	A---TGCAT AATGTACACT	TAATCAACAT AACCTATAA-
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PSM3 TTGCCTGTAA	AACCAATAAG TCAAAGGACA	-TGAATATAT TATGTGCATC	GGTGTAATG -CAATGGTAC	C-ATATATAT TCGTAATAT	AT---GCAT AATGTACACT	TAATCAACAT AACCTATAA-
TTAATGTACT ACCAATCAGT CACA	CTAAACAATA AGGTATTCAG	ATATTACATG AGTGTGGACG	CTAATCATCA GTT-CTTGAT	GCAATAATAT AGTCAAGGAC	--GAGCATA- AAATACA-AT	GTGAGAGATC GTGGGGGTTA
PSM4 TTGCCTGTAA	AACCAATAAG TCAAAGGACA	-TGAATATAT TATGTGCATC	GGTGTAATG -CAATGGTAC	C-ATATATAT TCGTAATAT	AT---GCAT AATGTACACT	TAATCAACAT AACCTATAA-
TTAATGTACT ACCAATCAGT CACA	CTAAACAATA AGGTATTCAG	ATATTACATG AGTGTGGACG	CTAATCATCA GTT-CTTGAT	GCAATAATAT AGTCAAGGAC	--GAGCATA- AAATACA-AT	GTGAGAGATC GTGGGGGTTA
PSM5 TTGCCTGTAA	AACCAATAAG TCAAAGGACA	-TGAATATAT TATGTGCATC	GGTGTAATG -CAATGGTAC	C-ATATATAT TCGTAATAT	A---TGCAT AATGTACACT	TAATCAACAT AACCTATAA-
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TTAATGTACT ACCAATCAGT CACA	CTAAACAATA AGGTATTCAG	ATATTACATA AGTGTGGACG	CTAATCATCA GTT-CTTGAT	GCAATAATAT AGTCAAGGAC	--GAGCATA- AAATACA-AT	GTGAGAGATC GTGGGGGT-A
PSM14	AACCAATAAG	-TGAATATAT	GGTGTAATG	C-ATATATAT	ATA--TGCAT	TAATCAACAT

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TTGCCTGTAA TCAAAGGACA TATGTGCATC -CAATGGTAC TCGTAAATAT AATGTACACT AACCTATAA-
TTAATGTACT CTAAACAATA ATATTACATA CTAATCATCA GCAATAATAC --GAGCATA- GTGAGAGATC
ACCAATCAGT AGGTATTCAG AGTGTTGACG GTT-CTTGAT AGTCAAGGAC AAATACA-AT GTGGGGGTTA
CACA

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ASH2CYTB AAGCTTCCAT CCAACATCTC AGCATGATGA AATTTCGGCT CACTATTAGG CCTATGCCCT ATCTCCAAA TCCTAACAGG CCTATTCTA GCCATACACT ACACTTCAGA TATCGCAACA GCCTTTACAT CCGTGACACA TATTTGTCCG GACGTCAACT ATGGATGACT TATTCGGAAT ATACATGCTA ATGGCGCATC TTCTCTCTC ATCTGCATCT ACCTTCACAT TGGTCGGGGT CTGTACTACG GCTCCTATCT CTACAAGAA ACTTGAACA TTGGAGTCAT CCTCCTACTA TTAGTTATAA TAACTGCCTT CGTTGGCTAT GTCTCCC

FT16CYTB AAGCTTCCAT CCAACATCTC AGCATGATGA AATTTCGGCT CACTATTAGG CCTATGCCCT ATCTCCAAA TCCTAACAGG CCTATTCTA GCCATACACT ACACTTCAGA TATCGCAACA GCCTTTACAT CCGTGACACA TATTTGTCCG GACGTCAACT ATGGATGACT TATTCGGAAT ATACATGCTA ATGGCGCATC TTCTCTCTC ATCTGCATCT ACCTTCACAT TGGTCGGGGT CTGTACTACG GCTCCTATCT CTACAAGAA ACTTGAACA TTGGAGTCAT CCTCCTACTA TTAGTTATAA TAACTGCCTT CGTTGGCTAT GTCTCCC

OR19CYTB AAGCTTCCAT CCAACATCTC AGCATGATGA AATTTCGGCT CACTATTAGG CCTATGCCCT ATCTCCAAA TCCTAACAGG CCTATTCTA GCCATACACT ACACTTCAGA TATCGCAACA GCCTTTACAT CCGTGACACA TATTTGTCCG GACGTCAACT ATGGATGACT TATTCGGAAT ATACATGCTA ATGGCGCATC TTCTCTCTC ATCTGCATCT ACCTTCACAT TGGTCGGGGT CTGTACTACG GCTCCTATCT CTACAAGAA ACTTGAACA TTGGAGTCAT CCTCCTACTA TTAGTTATAA TAACTGCCTT CGTTGGCTAT GTCTCCC

MAR23CYTB AAGCTTCCAT CCAACATCTC AGCATGATGA AATTTCGGCT CACTATTAGG CCTATGCCCT ATCTCCAAA TCCTAACAGG CCTATTCTA GCCATACACT ACACTTCAGA TATCGCAACA GCCTTTACAT CCGTGACACA TATTTGTCCG GACGTCAACT ATGGATGACT TATTCGGAAT ATACATGCTA ATGGCGCATC TTCTCTCTC ATCTGCATCT ACCTTCACAT TGGTCGGGGT CTGTACTACG GCTCCTATCT CTACAAGAA ACTTGAACA TTGGAGTCAT CCTCCTACTA TTAGTTATAA TAACTGCCTT CGTTGGCTAT GTCTCCC

FNQ3CYTB AAGCTTCCAT CCAACATCTC AGCATGATGA AATTTCGGCT CACTATTAGG C-TATGCCCT ATCTCCAAA TCCTAACAGG CCTATTCTA GCCATACACT ACACTTCAGA TATCGCAACA GCCTTTACAT CCGTGACACA TATTTGTCCG GACGTCAACT ATGGATGACT TATTCGGAAT ATACATGCTA ATGGCGCATC TTCTCTCTC ATCTGCATCT ACCTTCACAT TGGTCGGGGT CTGTACTACG GCTCCTATCT CTACAAGAA ACTTGAACA TTGGAGTCAT CCTCCTACTA TTAGTTATAA TAACTGCCTT CGTTGGCTAT GTCTCCC

FNQ12CYTB AAGCTTCCAT CCAACATCTC AGCATGATGA AATTTCGGCT CACTATTAGG CCTATGCCCT ATCTCCAAA TCCTAACAGG CCTATTCTA GCCATACACT ACACTTCAGA TATCGCAACA GCCTTTACAT CCGTGACACA TATTTGTCCG GACGTCAACT ATGGATGACT TATTCGGAAT ATACATGCTA ATGGCGCATC TTCTCTCTC ATCTGCATCT ACCTTCACAT TGGTCGGGGT CTGTACTACG GCTCCTATCT CTACAAGAA ACTTGAACA TTGGAGTCAT CCTCCTACTA TTAGTTATAA TAACTGCCTT CGTTGGCTAT gTCTCCC

IND2CYTB AAGCTTCCAT CCAACATCTC AGCATGATGA AATTTCGGCT CACTATTAGG CGTATGCCCT ATCTCCAAA TCCTAACAGG C-TATTCTA GCCATACACT ACACTTCAGA TATCGCAACA GCCTTTACAT CCGTGACACA TATTTGTCCG GACGTCAACT ATGGAGACT TATTCGGAAT ATACATGCTA ATGGCGCATC TTCTCTCTC ATCTGCATCT ACCTTCACAT TGGTCGGGGT CTGTACTACG GCTCCTATCT CTACAAGAA ACTTGAACA TTGGAGTCAT CCTCCTACTA TTAGTTATAA TAACTGCCTT CGTTGGCTAT gTCTCCC

PN83CYTB AAGCTTCCAT CCAACATCTC AGCATGATGA AATTTCGGCT CACTATTAGG C-TATGCCCT ATCTCCAAA TCCTAACAGG CCTATTCTA GCCATACATT ACACTTCAGA TATCGCAACA GCCTTTACAT CCGTGACACA TATTTGTCCG GACGTCAACT ATGGATGACT TATTCGGAAT ATACATGCTA ATGGCGCATC TTCTCTCTC ATCTGCATCT ACCTTCACAT TGGTCGGGGT CTGTACTACG GCTCCTATCT CTACAAGAA ACTTGAACA TTGGAGTCAT CCTCCTACTA TTAGTTATAA TAACTGCCTT CGTTGGCTAT gTCTCCC

	B2.06	B5.04	B4.07	B3.01	B5.05					
DEG36	168	168	162	158	120	114	187	185	126	126
DEG37	168	168	174	158	130	120	185	183	138	126
DEG41	168	168	162	160	120	114	189	183	138	138
DEG42	168	164	160	158	120	114	185	183	138	138
DEG43	168	168	158	158	120	118	185	185	138	126
DEG46	168	168	170	162	128	114	185	183	138	126
DEG47	174	168	170	158	120	120	187	185	138	126
DEG51	164	164	170	160	128	118	183	183	138	138
DEG52	168	168	170	170	128	120	185	183	138	138
DEG56	168	168	174	160	120	114	185	183	126	126
DEG57	168	164	170	160	128	120	191	185	138	138
DEG58	168	164	170	158	128	120	185	185	138	138
DEG59	174	168	158	158	114	114	185	185	138	126
DEG61	168	166	162	160	130	118	185	183	138	126
DEG62	168	168	170	158	118	114	185	183	138	138
FIT46	174	168	158	158	122	114	191	183	138	130
FIT47	170	168	170	158	120	120	185	181	138	126
FIT48	168	168	170	158	120	114	187	183	138	130
FIT49	170	168	172	172	122	120	183	165	130	126
FIT50	174	170	170	170	128	114	181	177	138	126
FIT51	174	168	170	170	120	112	183	165	138	126
FIT52	174	168	158	158	128	118	191	183	138	138
FIT54	168	168	170	170	122	120	183	179	138	138
FIT55	174	168	170	170	120	120	183	183	138	126
FIT56	174	168	170	158	120	112	181	179	126	126
FIT57	168	168	170	158	128	122	183	181	138	126
FIT58	168	166	172	172	128	120	191	179	138	138
FIT59	174	168	170	170	120	118	183	183	138	138
FIT60	170	168	172	160	120	118	187	181	138	138
FIT71	174	168	170	168	128	120	183	181	138	126
FIT38	168	168	174	158	120	120	191	189	138	138
FIT39	170	170	174	172	120	120	187	183	130	126
FIT40	170	168	170	170	114	114	191	183	130	126
FIT41	168	168	172	170	128	120	191	189	138	130
FIT42	174	170	174	158	122	120	191	183	130	126
FIT43	168	168	170	170	128	114	185	179	138	130
ORD01	168	168	172	170	124	114	183	183	138	138
ORD04	172	162	172	170	120	118	189	183	138	138
ORD05	168	168	170	170	118	114	173	165	138	126
ORD06	170	164	174	170	120	112	187	187	138	126
ORD07	172	162	172	172	118	112	183	183	138	126

ORD08	168	168	176	172	118	118	187	185	138	138
ORD09	168	168	170	170	122	112	185	183	126	126
ORD10	170	170	170	170	122	120	183	183	138	138
ORD11	168	168	170	166	128	122	187	165	138	126
ORD12	168	168	176	160	120	114	187	181	138	126
ORD13	170	164	170	166	128	118	183	183	138	126
ORD14	168	168	172	170	128	118	189	187	126	126
ORD15	164	164	170	170	122	118	187	187	138	126
ORD18	168	164	172	172	118	118	183	168	140	140
ORD20	168	168	172	170	120	114	183	165	126	126
ORD21	168	162	172	170	118	118	187	167	126	126
PSM01	168	168	170	170	114	114	187	183	138	138
PSM02	174	168	170	170	120	114	187	183	126	126
PSM04	170	168	170	170	128	120	187	187	138	138
PSM05	168	168	170	170	128	114	187	185	126	126
PSM06	168	166	170	170	120	114	187	187	138	138
PSM08	174	168	170	170	120	114	187	187	126	126
PSM09	168	164	170	174	120	114	191	185	126	108
PSM13	168	168	174	170	120	114	187	187	126	126
PSM14	168	168	162	158	128	114	187	187	138	138
NKC5	168	168	170	170	120	112	191	189	138	138
NKC6	168	168	170	170	118	112	187	185	126	126
NKC7	168	166	176	176	120	112	187	183	126	126
NKC8	172	168	176	160	118	114	183	181	138	126
NKC9	168	168	172	172	122	120	187	167	138	126
NKC10	168	162	176	170	128	112	187	183	138	138
NKC11	168	168	172	170	112	112	183	181	142	126
NKC12	168	164	170	160	128	120	187	187	138	126
NKC13	170	168	170	160	118	112	185	167	138	138
NKC14	170	168	172	170	112	112	187	185	138	138
NKC15	168	168	172	170	120	118	189	187	138	138
NKC16	174	162	170	168	120	118	189	169	130	126
NKC18	168	164	172	170	128	120	183	183	126	126
NKC19	164	162	172	162	120	120	191	185	138	126
NKC21	164	162	172	170	120	112	183	183	138	126
FNQ1	170	166	176	172	120	118	191	169	138	126
FNQ2	170	166	162	162	120	112	165	163	138	126
FNQ4	170	166	176	172	120	120	191	169	138	126
FNQ5	176	168	176	172	120	118	191	177	138	138
FNQ9	168	168	174	172	120	120	183	165	138	126
FNQ10	172	162	170	170	120	120	183	165	138	138
FNQ11	168	168	172	162	120	120	165	165	138	138
FNQ12	172	170	176	166	120	120	191	183	138	138

FNQ13	168	166	172	170	120	112	183	183	138	138
MAR1	0	0	170	160	120	114	0	0	0	0
MAR2	168	162	176	162	120	120	197	183	138	126
MAR3	168	166	176	172	120	118	181	165	138	130
MAR4	182	168	176	172	120	114	185	169	138	138
MAR6	168	168	170	170	120	120	183	169	138	126
MAR5	166	162	170	162	120	112	183	175	138	126

	Sample #	Original #	Area	Collected by	Collecting Solution	Tissue type
1	1	PSM 1 B 1	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol muscle	
2	2	PSM 2 B 2	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol muscle	
3	3	PSM 3 B 3	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol muscle	
4	4	PSM 4 B 4	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol muscle	
5	5	PSM 5 B 5	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol muscle	
6	6	PSM 6 B 6	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol muscle	
7	7	PSM 7 B 7	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol muscle	
8	8	PSM 8	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol fin	
9	9	PSM 9	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol fin	
10	10	PSM 10	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol fin	
11	11	PSM 11	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol fin	
12	12	PSM 12	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol fin	
13	13	PSM 13	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol fin	
14	14	PSM 14	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol fin	
1	1	KAR1 DEG 76	Sherlock River	Mark Allen	DMSO/saline	fin
2	2	KAR2 DEG 77	Sherlock River	Mark Allen	DMSO/saline	fin
3	3	KAR 3 DEG 78	Sherlock River	Mark Allen	DMSO/saline	fin
4	4	KAR 4 DEG 79	Sherlock River	Mark Allen	DMSO/saline	fin
5	5	KAR 5 FIE 1	Fields River, Karratha	Matt, Mike, Glen	ethanol muscle	
6	6	KAR 6 FIE 2	Fields River, Karratha	Matt, Mike, Glen	ethanol muscle	
7	7	KAR 7 FIE 3	Fields River, Karratha	Matt, Mike, Glen	ethanol muscle	
8	8	KAR 8 FIE 4	Fields River, Karratha	Matt, Mike, Glen	ethanol fin	
9	9	KAR 9 FIE 5	Fields River, Karratha	Matt, Mike, Glen	ethanol fin	
10	10	KAR 10 FIE 6	Fields River, Karratha	Matt, Mike, Glen	ethanol fin	
11	11	KAR 11 FIE 7	Fields River, Karratha	Matt, Mike, Glen	ethanol fin	
12	12	KAR 12 FIE 8	Fields River, Karratha	Matt, Mike, Glen	ethanol fin	
13	13	KAR 13 FIE 9	Airport River, Karratha	Matt, Mike, Glen	ethanol fin	
14	14	KAR 14 FIE 10	Airport River, Karratha	Matt, Mike, Glen	ethanol fin	
1	1	MARY 1 EC 2	Northern Territory, Mary River catchment area	Paul Delastans	ethanol fin	
2	2	MARY 2 EC 2	Northern Territory, Mary River catchment area	Paul Delastans	ethanol fin	
3	3	MARY 3-gone EC 2	Northern Territory, Mary River catchment area	Paul Delastans	ethanol fin	
4	4	MARY 4-gone EC 2	Northern Territory, Mary River catchment area	Paul Delastans	ethanol fin	
5	5	MARY 5-gone EC 2	Northern Territory, Mary River catchment area	Paul Delastans	ethanol fin	
6	6	MARY 6-gone EC 2	Northern Territory, Mary River catchment area	Paul Delastans	ethanol fin	
7	7	MARY 7-gone EC 2	Northern Territory, Mary River catchment area	Paul Delastans	ethanol fin	
8	8	MARY 8-gone EC 2	Northern Territory, Mary River catchment area	Paul Delastans	ethanol fin	
9	9	MARY 9 EC 2	Northern Territory, Mary River catchment area	Paul Delastans	ethanol fin	
10	10	MARY 10-gone EC 2	Northern Territory, Mary River catchment area	Paul Delastans	ethanol fin	
11	11	MARY 11 EC 2	Northern Territory, Mary River catchment area	Paul Delastans	ethanol fin	
12	12	MARY 12 EC 2	Northern Territory, Mary River catchment area	Paul Delastans	ethanol fin	
13	13	MARY 13 EC 2	Northern Territory, Mary River catchment area	Paul Delastans	ethanol fin	
14	14	MARY 14 EC 2	Northern Territory, Mary River catchment area	Paul Delastans	ethanol fin	
15	15	MARY 15 EC 2	Northern Territory, Mary River catchment area	Paul Delastans	ethanol fin	
16	16	MARY 16 EC 2	Northern Territory, Mary River catchment area	Paul Delastans	ethanol fin	
17	17	MARY 17 EC 2	Northern Territory, Mary River catchment area	Paul Delastans	ethanol fin	
18	18	MARY 18 EC 2	Northern Territory, Mary River catchment area	Paul Delastans	ethanol fin	
19	19	MARY 19 EC 4	Northern Territory, Mary River catchment area	Paul Delastans	ethanol fin	
20	20	MARY 20 EC 4	Northern Territory, Mary River catchment area	Paul Delastans	ethanol fin	
21	21	MARY 21 EC 4	Northern Territory, Mary River catchment area	Paul Delastans	ethanol fin	
22	22	MARY 22 EC 4	Northern Territory, Mary River catchment area	Paul Delastans	ethanol fin	
23	23	MARY 23 Mary	Northern Territory, Mary River catchment area	Paul Delastans	ethanol fin	
24	24	MARY 24 Mary	Northern Territory, Mary River catchment area	Paul Delastans	ethanol fin	
25	25	MARY 25 Mary	Northern Territory, Mary River catchment area	Paul Delastans	ethanol fin	

26 26 MARY 26 Mary Northern Territory, Mary River catchment area Paul Delastans ethanol fin

1	1	FIT 1	Fitzroy River	Dave Morgan	DMSO/saline	fin
2	2	FIT 2	Fitzroy River	Dave Morgan	DMSO/saline	fin
3	3	FIT 3	Fitzroy River	Dave Morgan	DMSO/saline	fin
4	4	FIT 4	Fitzroy River	Dave Morgan	DMSO/saline	fin
5	5	FIT 5	Fitzroy River	Dave Morgan	DMSO/saline	fin
6	6	FIT 6	Fitzroy River	Dave Morgan	DMSO/saline	fin
7	7	FIT 7	Fitzroy River	Dave Morgan	DMSO/saline	fin
8	8	FIT 8	Fitzroy River	Dave Morgan	DMSO/saline	fin
9	9	FIT 9	Fitzroy River	Dave Morgan	DMSO/saline	fin
10	10	FIT 10	Fitzroy River	Dave Morgan	DMSO/saline	fin
11	11	FIT 11	Fitzroy River	Dave Morgan	DMSO/saline	fin
12	12	FIT 12	Fitzroy River	Dave Morgan	DMSO/saline	fin
13	13	FIT 13	Fitzroy River	Dave Morgan	DMSO/saline	fin
14	14	FIT 14	Fitzroy River	Dave Morgan	DMSO/saline	fin
15	15	FIT 15	Fitzroy River	Dave Morgan	DMSO/saline	fin
16	16	FIT 16	Fitzroy River	Dave Morgan	DMSO/saline	fin
17	17	FIT 17	Fitzroy River	Dave Morgan	DMSO/saline	fin
18	18	FIT 18	Fitzroy River	Dave Morgan	DMSO/saline	fin
19	19	FIT 19	Fitzroy River	Dave Morgan	DMSO/saline	fin
20	20	FIT 20	Fitzroy River	Dave Morgan	DMSO/saline	fin
21	21	FIT 21	Fitzroy River	Dave Morgan	DMSO/saline	fin
22	22	FIT 22	Fitzroy River	Dave Morgan	DMSO/saline	fin
23	23	FIT 23	Fitzroy River	Dave Morgan	DMSO/saline	fin
24	24	FIT 24	Fitzroy River	Dave Morgan	DMSO/saline	fin
25	25	FIT 25	Fitzroy River	Dave Morgan	DMSO/saline	fin
26	26	FIT 26	Fitzroy River	Dave Morgan	DMSO/saline	fin
27	27	FIT 27	Fitzroy River	Dave Morgan	DMSO/saline	fin
28	28	FIT 28	Fitzroy River	Dave Morgan	DMSO/saline	fin
29	29	FIT 29	Fitzroy River	Dave Morgan	DMSO/saline	fin
30	30	FIT 30	Fitzroy River	Dave Morgan	DMSO/saline	fin
31	31	FIT 31	Fitzroy River	Dave Morgan	DMSO/saline	fin
32	32	FIT 32	Fitzroy River	Dave Morgan	DMSO/saline	fin
33	33	FIT 33	Fitzroy River	Dave Morgan	DMSO/saline	fin
34	34	FIT 34	Fitzroy River	Dave Morgan	DMSO/saline	fin
35	35	FIT 35	Fitzroy River	Dave Morgan	DMSO/saline	fin
36	36	FIT 36	Fitzroy River	Dave Morgan	DMSO/saline	fin
37	37	FIT 37	Fitzroy River	Dave Morgan	DMSO/saline	fin
38	38	FIT 38	Minni River (Fitzroy)	Dave Morgan	DMSO/saline	fin
39	39	FIT 39	Minni River (Fitzroy)	Dave Morgan	DMSO/saline	fin
40	40	FIT 40	Minni River (Fitzroy)	Dave Morgan	DMSO/saline	fin
41	41	FIT 41	Marlargi River (Fitzroy)	Dave Morgan	DMSO/saline	fin
42	42	FIT 42	Jiliyardi (Fitzroy)	Dave Morgan	DMSO/saline	fin
43	43	FIT 43	Geiki Gorge (Fitzroy)	Dave Morgan	ethanol	fin
44	44	FIT 44	Geiki Gorge (Fitzroy)	Dave Morgan	ethanol	fin
45	45	FIT 45	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
46	46	FIT 46	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
47	47	FIT 47	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
48	48	FIT 48	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
49	49	FIT 49	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
50	50	FIT 50	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
51	51	FIT 51	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
52	52	FIT 52	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
53	53	FIT 53	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	liver
54	54	FIT 54	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
55	55	FIT 55	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
56	56	FIT 56	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin

57	57	FIT 57	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	muscle
58	58	FIT 58	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
59	59	FIT 59	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
60	60	FIT 60	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
61	61	FIT 61	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
62	62	FIT 62	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
63	63	FIT 63	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
64	64	FIT 64	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
65	65	FIT 66	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	muscle
66	66	FIT 67	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	muscle
67	67	FIT 67L FIT 73	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	liver
68	68	FIT 68	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
69	69	FIT 69	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
70	70	FIT 70	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	muscle
71	71	FIT 71	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	muscle
72	72	FIT 74	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	muscle
73	73	FIT 76	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
74	74	FIT 77	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
75	75	FIT 78	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
76	76	FIT 79	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	muscle
77	77	FIT 80	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
78	78	FIT 81	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	muscle
79	79	FIT 82	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
80	80	FIT 83	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
81	81	FIT 84	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
82	82	FIT 85	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
83	83	FIT 86	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
84	84	FIT 87	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
85	85	FIT 88	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
86	86	FIT 89	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
87	87	FIT 90	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
88	88	FIT 91	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
89	89	FIT 92	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
90	90	FIT 93	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
91	91	FIT 94	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
92	92	FIT 95	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
93	93	FIT 96	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
94	94	FIT 97	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
95	95	FIT 98	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
96	96	FIT 99	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
97	97	FIT 100	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
98	98	FIT 101	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
99	99	FIT 102	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
100	100	FIT 103	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
101	101	FIT 104	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
102	102	FIT 105	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
103	103	FIT 106	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
104	104	FIT 107	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
105	105	FIT 108	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
106	106	FIT 109	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
107	107	FIT 110 FIT 79	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
108	108	FIT 130 DEG 3	Fitzroy River Dave Morgan	DMSO/saline	fin	
109	109	FIT 131 DEG 6	Fitzroy River Dave Morgan	DMSO/saline	fin	
110	110	FIT 132 DEG 7	Fitzroy River Dave Morgan	DMSO/saline	fin	
111	111	FIT 133 DEG 8	Fitzroy River Dave Morgan	DMSO/saline	fin	
112	112	FIT 134	DEG 9 Fitzroy River Dave Morgan	DMSO/saline	fin	
113	113	FIT 135 DEG 10	Fitzroy River Dave Morgan	DMSO/saline	fin	

114	114	FIT 136	DEG 11	Fitzroy River	Dave Morgan	DMSO/saline	fin
115	115	FIT 137	DEG 12	Fitzroy River	Dave Morgan	DMSO/saline	fin
116	116	FIT 138	DEG 13	Fitzroy River	Dave Morgan	DMSO/saline	fin
117	117	FIT 139	DEG 14	Fitzroy River	Dave Morgan	DMSO/saline	fin
118	118	FIT 140	DEG 15	Fitzroy River	Dave Morgan	DMSO/saline	fin
119	119	FIT 141	DEG 16	Fitzroy River	Dave Morgan	DMSO/saline	fin
120	120	FIT 142	DEG 17	Fitzroy River	Dave Morgan	DMSO/saline	fin
121	121	FIT 143	DEG 18	Fitzroy River	Dave Morgan	DMSO/saline	fin
122	122	FIT 144	DEG 19	Fitzroy River	Dave Morgan	DMSO/saline	fin
123	123	FIT 145	DEG 20	Fitzroy River	Dave Morgan	DMSO/saline	fin
124	124	FIT 146	DEG 21	Fitzroy River	Dave Morgan	DMSO/saline	fin
125	125	FIT 147	DEG 22	Fitzroy River	Dave Morgan	DMSO/saline	fin
126	126	FIT 148	DEG 23	Fitzroy River	Dave Morgan	DMSO/saline	fin
127	127	FIT 149	DEG 24	Fitzroy River	Dave Morgan	DMSO/saline	fin
128	128	FIT 150	DEG 25	Fitzroy River	Dave Morgan	DMSO/saline	fin
129	129	FIT 151	DEG 26	Fitzroy River	Dave Morgan	DMSO/saline	fin
130	130	FIT 152	DEG 27	Fitzroy River	Dave Morgan	DMSO/saline	fin
131	131	MA/FIT 1		Fitzroy/Margaret River	Dave Morgan	ethanol	fin
132	132	MA/FIT 2		Fitzroy/Margaret River	Dave Morgan	ethanol	fin
133	133	MA/FIT 3		Fitzroy/Margaret River	Dave Morgan	ethanol	fin
134	134	MA/FIT 4		Fitzroy/Margaret River	Dave Morgan	ethanol	fin
135	135	MA/FIT 5		Fitzroy/Margaret River	Dave Morgan	ethanol	fin
136	136	MA/FIT 6		Fitzroy/Margaret River	Dave Morgan	ethanol	fin
137	137	MA/FIT 7		Fitzroy/Margaret River	Dave Morgan	ethanol	fin
138	138	MA/FIT 8		Fitzroy/Margaret River	Dave Morgan	ethanol	fin

1	1	ORD 1	Ord River	Howard Gill	DMSO/saline	muscle
2	2	ORD 2	Ord River	Howard Gill	DMSO/saline	fin
3	3	ORD 3	Ord River	Howard Gill	DMSO/saline	muscle
4	4	ORD 4	Ord River	Howard Gill	DMSO/saline	fin
5	5	ORD 5	Ord River	Howard Gill	DMSO/saline	fin
6	6	ORD 6	Ord River	Howard Gill	DMSO/saline	fin
7	7	ORD 7	Ord River	Howard Gill	DMSO/saline	fin
8	8	ORD 8	Ord River	Howard Gill	DMSO/saline	fin
9	9	ORD 9	Ord River	Howard Gill	DMSO/saline	fin
10	10	ORD 10	Ord River	Howard Gill	DMSO/saline	fin
11	11	ORD 11	Ord River	Howard Gill	DMSO/saline	fin
12	12	ORD 12	Ord River	Howard Gill	DMSO/saline	fin
13	13	ORD 13	Ord River	Howard Gill	DMSO/saline	fin
14	14	ORD 14	Ord River	Howard Gill	DMSO/saline	fin
15	15	ORD 15	Ord River	Howard Gill	DMSO/saline	fin
16	16	ORD 16	Ord River	Howard Gill	DMSO/saline	fin
17	17	ORD 17	Ord River	Howard Gill	DMSO/saline	fin
18	18	ORD 18	Ord River	Howard Gill	DMSO/saline	fin
19	19	ORD 19	Ord River	Howard Gill	DMSO/saline	fin
20	20	ORD 20	Ord River	Howard Gill	DMSO/saline	muscle
21	21	ORD 21	Ord River	Howard Gill	DMSO/saline	fin
22	22	ORD 22	Ord River	Howard Gill	DMSO/saline	fin
23	23	ORD 23	Ord River	Howard Gill	DMSO/saline	fin
24	24	ORD 24	Ord River	Howard Gill	DMSO/saline	muscle
25	25	ORD 25	Ord River	Howard Gill	DMSO/saline	fin
26	26	ORD 26	Ord River	Howard Gill	DMSO/saline	muscle
27	27	ORD 27	Ord River	Dave Morgan	DMSO/saline	muscle
28	28	ORD 28	Ord River	Dave Morgan	DMSO/saline	muscle
29	29	ORD 29	Ord River	Dave Morgan	DMSO/saline	muscle
30	30	ORD 30	Ord River	Dave Morgan	DMSO/saline	muscle
31	31	ORD 31	Ord River	Dave Morgan	DMSO/saline	muscle
32	32	ORD 32	Ord River	Dave Morgan	DMSO/saline	fin

33	33	ORD 33	Ord River	Dave Morgan	DMSO/saline	fin	
34	34	ORD 34	Ord River	Dave Morgan	DMSO/saline	fin	
35	35	ORD 35	Ord River	Dave Morgan	DMSO/saline	muscle	
1	1	ASH 1	Ashburton River	Dave Morgan	DMSO/saline	fin	
2	2	ASH 2	Ashburton River	Carina/Graham Page/Martine Hawkins	DMSO/saline	fin	
3	3	ASH 3	Ashburton River	Carina/Graham Page/Martine Hawkins	DMSO/saline	fin	
4	4	ASH 4	Ashburton River	Carina/Graham Page/Martine Hawkins	DMSO/saline	fin	
5	5	ASH 5	Ashburton River	Carina/Graham Page/Martine Hawkins	DMSO/saline	fin	
6	6	ASH 61	Ashburton River-salt	Graham Page	DMSO/saline	fin/frozen	
7	7	ASH 61	ASH 62 Ashburton River-salt	Graham Page	DMSO/saline	fin/frozen	
8	8	ASH 66	Ashburton River	Graham Page	DMSO/saline	fin/frozen	
1	1	DEG 1	Turner River	Dave Morgan	DMSO/saline	fin	
2	2	DEG 2	Degrey River	Dave Morgan	DMSO/saline	fin	
3	3	DEG 60	Degrey River	Mark Allen	DMSO/saline	fin	
4	4	DEG 64	Degrey River	Mark Allen	DMSO/saline	fin	
5	5	DEG 55	Degrey River	Mark Allen	DMSO/saline	fin	
6	6	DEG 65	Degrey River	Mark Allen	DMSO/saline	fin	
7	7	DEG 54	Degrey River	Mark Allen	DMSO/saline	fin	
8	8	DEG 50	Degrey River	Mark Allen	DMSO/saline	fin	
9	9	DEG 40	Degrey River	Mark Allen	DMSO/saline	fin	
10	10	DEG 39	Degrey River	Mark Allen	DMSO/saline	fin	
11	11	DEG 49	Degrey River	Mark Allen	DMSO/saline	fin	
12	12	DEG 701	Degrey River	Mark Allen	DMSO/saline	fin	
13	13	DEG 45	Degrey River	Mark Allen	DMSO/saline	fin	
14	14	DEG 44	Degrey River	Mark Allen	DMSO/saline	fin	
15	15	DEG 4	Yule River	Dave Morgan	DMSO/saline	fin	
16	16	DEG 5	Yule River	Dave Morgan	DMSO/saline	fin	
17	17	DEG 36	Degrey River-salt	Mark Allen	DMSO/saline	fin	
18	18	DEG 37	Degrey River-salt	Mark Allen	DMSO/saline	fin	
19	19	DEG 38	Degrey River-salt	Mark Allen	DMSO/saline	fin	
20	20	DEG 41	Degrey River-salt	Mark Allen	DMSO/saline	fin	
21	21	DEG 42	Degrey River-salt	Mark Allen	DMSO/saline	fin	
22	22	DEG 43	Degrey River-salt	Mark Allen	DMSO/saline	fin	
23	23	DEG 46	Degrey River-salt	Mark Allen	DMSO/saline	fin	
24	24	DEG 47	Degrey River-salt	Mark Allen	DMSO/saline	fin	
25	25	DEG 48	Condon (10km east of DeGrey)	Mark Allen	DMSO/saline	fin	
26	26	DEG 51	Degrey River-salt	Mark Allen	DMSO/saline	fin	
27	27	DEG 52	Degrey River-salt	Mark Allen	DMSO/saline	fin	
28	28	DEG 53	Condon (10km east of DeGrey)	Mark Allen	DMSO/saline	fin	
29	29	DEG 56	Degrey River-salt	Mark Allen	DMSO/saline	fin	
30	30	DEG 57	Degrey River-salt	Mark Allen	DMSO/saline	fin	
31	31	DEG 58	Degrey River-salt	Mark Allen	DMSO/saline	fin	
32	32	DEG 59	Degrey River-salt	Mark Allen	DMSO/saline	fin	
33	33	DEG 61	Degrey River-salt	Mark Allen	DMSO/saline	fin	
34	34	DEG 62	Degrey River-salt	Mark Allen	DMSO/saline	fin	
35	35	DEG 63	Degrey River-salt	Mark Allen	DMSO/saline	fin	
36	36	DEG 66	Degrey River-salt	Mark Allen	DMSO/saline	fin	
37	37	DEG 67	Degrey River-salt	Mark Allen	DMSO/saline	fin	
38	38	DEG 68	Degrey River-salt	Mark Allen	DMSO/saline	fin	
39	39	DEG 69	Degrey River-salt	Mark Allen	DMSO/saline	fin	
40	40	DEG 70	Degrey River	Mark Allen	DMSO/saline	fin	
41	41	DEG 71	Degrey River	Mark Allen	DMSO/saline	fin	
42	42	DEG 72	Degrey River	Mark Allen	DMSO/saline	fin	
43	43	DEG 73	Degrey River	Mark Allen	DMSO/saline	fin	
44	44	DEG 74	Degrey River	Mark Allen	DMSO/saline	fin	

45	45	DEG 75	Degrey River	Mark Allen	DMSO/saline	fin
46	46	DEG 80	Pulkamurra River	Mark Allen	DMSO/saline	fin
47	47	DEG 81	Pulkamurra River	Mark Allen	DMSO/saline	fin
48	48	DEG 82	Degrey River	Mark Allen	DMSO/saline	fin

1	1	PNG 1	B 1154	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
2	2	PNG 2	B 1155	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
3	3	PNG 3	B 1156	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
4	4	PNG 4	B 1157	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
5	5	PNG 5	B 1158	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
6	6	PNG 6	B 1159	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
7	7	PNG 7	B 1160	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
8	8	PNG 8	B 1161	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
9	9	PNG 9	B 1162	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
10	10	PNG 10	B 1163	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
11	11	PNG 11	B 1164	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
12	12	PNG 12	B 1165	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
13	13	PNG 13	B 1166	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
14	14	PNG 14	B 1167	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
15	15	PNG 15	B 1168	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
16	16	PNG 16	B 1169	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
17	17	PNG 17	B 1170	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
18	18	PNG 18	B 1171	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
19	19	PNG 19	B 1172	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
20	20	PNG 20	B 1173	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
21	21	PNG 21	B 1174	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
22	22	PNG 22	B 1175	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
23	23	PNG 23	B 1176	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
24	24	PNG 24	B 1177	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
25	25	PNG 25	-gone B 1178	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
26	26	PNG 26	B 1179	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
27	27	PNG 27	B 1180	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
28	28	PNG 28	B 1181	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
29	29	PNG 29	B 1182	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
30	30	PNG 30	B 1183	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
31	31	PNG 31	- gone B 1184	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
32	32	PNG 32	- gone B 1185	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle

1	1	IND 1	4 95	Indonesia-Bali-Denpasar-Jimbaran Bay area-Kendonanan fish market	Will White	DMSO/saline	fin
2	2	IND 2	4 75	Indonesia-Bali-Denpasar-Jimbaran Bay area-Kendonanan fish market	Will White	DMSO/saline	fin
3	3	IND 3	4 96	Indonesia-Bali-Denpasar-Jimbaran Bay area-Kendonanan fish market	Will White	DMSO/saline	fin
4	4	IND 4	4 76	Indonesia-Bali-Denpasar-Jimbaran Bay area-Kendonanan fish market	Will White	DMSO/saline	fin
5	5	IND 5	4 03	Indonesia-Bali-Denpasar-Jimbaran Bay area-Kendonanan fish market	Will White	DMSO/saline	fin

total:325 samples

1	FNQ 1	FN Queensland-Rutland Plains-Nassav River-brackish	Bill and Gabby Ware	DMSO/saline	fin
2	FNQ 2	FN Queensland-Rutland Plains-Nassav River-brackish	Bill and Gabby Ware	DMSO/saline	fin
3	FNQ 3	FN Queensland-Rutland Plains-Nassav River-brackish	Bill and Gabby Ware	DMSO/saline	fin
4	FNQ 4	FN Queensland-Rutland Plains-Nassav River-brackish	Bill and Gabby Ware	DMSO/saline	fin
5	FNQ 5	FN Queensland-Rutland Plains-Nassav River-brackish	Bill and Gabby Ware	DMSO/saline	fin
6	FNQ 6	FN Queensland-Rutland Plains-Nassav River-brackish	Bill and Gabby Ware	DMSO/saline	fin
7	FNQ 7	FN Queensland-Rutland Plains-Nassav River-brackish	Bill and Gabby Ware	DMSO/saline	fin
8	FNQ 8	FN Queensland-Rutland Plains-Cabbage Creek-salt	Bill and Gabby Ware	DMSO/saline	fin
9	FNQ 9	FN Queensland-Rutland Plains-Cabbage Creek-salt	Bill and Gabby Ware	DMSO/saline	fin
10	FNQ 10	FN Queensland-Rutland Plains-Cabbage Creek-salt	Bill and Gabby Ware	DMSO/saline	fin
11	FNQ 11	FN Queensland-Rutland Plains-Cabbage Creek-salt	Bill and Gabby Ware	DMSO/saline	fin
12	FNQ 12	FN Queensland-Rutland Plains-Cabbage Creek-salt	Bill and Gabby Ware	DMSO/saline	fin
13	FNQ 13	FN Queensland-Rutland Plains-Topsi Creek-salt-upstream	Bill and Gabby Ware	DMSO/saline	fin

14	FNQ 14	FN Queensland-Rutland Plains-Doughboy River-salt-mouth			Bill and Gabby Ware	DMSO/saline	fin
		Rutland Plains approx 50 k from Kowanyama					
1	NKC 1	North Lawley River	Barry Weir	DMSO/saline		fin	
2	NKC 2	North Lawley River	Barry Weir	DMSO/saline		fin	
3	NKC 3	North Lawley River	Barry Weir	DMSO/saline		fin	
4	NKC 4	North Lawley River	Barry Weir	DMSO/saline		fin	
5	NKC 5	North Port Warrender	Barry Weir	DMSO/saline		fin	
6	NKC 6	North Port Warrender	Barry Weir	DMSO/saline		fin	
7	NKC 7	North Port Warrender	Barry Weir	DMSO/saline		fin	
8	NKC 8	North Port Warrender	Barry Weir	DMSO/saline		fin	
9	NKC 9	North Port Warrender	Barry Weir	DMSO/saline		fin	
10	NKC 10	North Port Warrender	Barry Weir	DMSO/saline		fin	
11	NKC 11	North Port Warrender	Barry Weir	DMSO/saline		fin	
12	NKC 12	North Port Warrender	Barry Weir	DMSO/saline		fin	
13	NKC 13	North east Admiralty Gulf	Barry Weir	DMSO/saline		fin	
14	NKC 14	North east Admiralty Gulf	Barry Weir	DMSO/saline		fin	
15	NKC 15	North east Admiralty Gulf	Barry Weir	DMSO/saline		fin	
16	NKC 16	North east Admiralty Gulf	Barry Weir	DMSO/saline		fin	
17	NKC 17	North east Admiralty Gulf	Barry Weir	DMSO/saline		fin	
18	NKC 18	North east Admiralty Gulf	Barry Weir	DMSO/saline		fin	
19	NKC 19	North east Admiralty Gulf	Barry Weir	DMSO/saline		fin	
20	NKC 20	North east Admiralty Gulf	Barry Weir	DMSO/saline		fin	
21	NKC 21	North east Admiralty Gulf	Barry Weir	DMSO/saline		fin	
22	NKC 22	North east Admiralty Gulf	Barry Weir	DMSO/saline		fin	
23	NKC 23	North east Admiralty Gulf	Barry Weir	DMSO/saline		fin	
24	NKC 24	South Vansittart Bay	Barry Weir	DMSO/saline		fin	
25	NKC 25	South Vansittart Bay	Barry Weir	DMSO/saline		fin	
26	NKC 26	South Vansittart Bay	Barry Weir	DMSO/saline		fin	
27	NKC 27	South Vansittart Bay	Barry Weir	DMSO/saline		fin	
28	NKC 28	South Vansittart Bay	Barry Weir	DMSO/saline		fin	
1	BRM 1	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	
2	BRM 2	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	
3	BRM 3	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	
4	BRM 4	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	
5	BRM 5	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	
6	BRM 6	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	
7	BRM 7	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	
8	BRM 8	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	
9	BRM 9	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	
10	BRM 10	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	
11	BRM 11	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	
12	BRM 12	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	
13	BRM 13	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	
14	BRM 14	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	
15	BRM 15	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	
16	BRM 16	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	
17	BRM 17	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	
18	BRM 18	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	
19	BRM 19	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	
20	BRM 20	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	
21	BRM 21	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	
22	BRM 22	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	
23	BRM 23	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	
24	BRM 24	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	
25	BRM 25	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	
26	BRM 26	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline		fin	

27	BRM 27	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
28	BRM 28	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
29	BRM 29	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
30	BRM 30	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin

	<u>Sample #</u>	<u>Area</u>	<u>Collected by</u>	<u>Collecting Solution</u>	<u>Tissue type</u>
1	1 PSM 1	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol	muscle
2	2 PSM 2	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol	muscle
3	3 PSM 3	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol	muscle
4	4 PSM 4	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol	muscle
5	5 PSM 5	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol	muscle
6	6 PSM 6	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol	muscle
7	7 PSM 7	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol	muscle
8	8 PSM 8	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol	fin
9	9 PSM 9	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol	fin
10	10 PSM 10	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol	fin
11	11 PSM 11	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol	fin
12	12 PSM 12	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol	fin
13	13 PSM 13	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol	fin
14	14 PSM 14	Port Smith, between Broome and PH	Matt, Mike, Glen	ethanol	fin
1	1 KAR1	Sherlock River	Mark Allen	DMSO/saline	fin
2	2 KAR2	Sherlock River	Mark Allen	DMSO/saline	fin
3	3 KAR 3	Sherlock River	Mark Allen	DMSO/saline	fin
4	4 KAR 4	Sherlock River	Mark Allen	DMSO/saline	fin
5	5 KAR 5	Fields River, Karratha	Matt, Mike, Glen	ethanol	muscle
6	6 KAR 6	Fields River, Karratha	Matt, Mike, Glen	ethanol	muscle
7	7 KAR 7	Fields River, Karratha	Matt, Mike, Glen	ethanol	muscle
8	8 KAR 8	Fields River, Karratha	Matt, Mike, Glen	ethanol	fin
9	9 KAR 9	Fields River, Karratha	Matt, Mike, Glen	ethanol	fin
10	10 KAR 10	Fields River, Karratha	Matt, Mike, Glen	ethanol	fin
11	11 KAR 11	Fields River, Karratha	Matt, Mike, Glen	ethanol	fin
12	12 KAR 12	Fields River, Karratha	Matt, Mike, Glen	ethanol	fin
13	13 KAR 13	Airport River, Karratha	Matt, Mike, Glen	ethanol	fin
14	14 KAR 14	Airport River, Karratha	Matt, Mike, Glen	ethanol	fin
1	1 MARY 1	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin
2	2 MARY 2	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin
3	3 MARY 3-gone	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin
4	4 MARY 4-gone	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin
5	5 MARY 5-gone	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin
6	6 MARY 6-gone	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin
7	7 MARY 7-gone	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin
8	8 MARY 8-gone	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin
9	9 MARY 9	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin
10	10 MARY 10-gone	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin
11	11 MARY 11	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin
12	12 MARY 12	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin
13	13 MARY 13	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin
14	14 MARY 14	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin
15	15 MARY 15	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin
16	16 MARY 16	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin
17	17 MARY 17	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin
18	18 MARY 18	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin
19	19 MARY 19	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin
20	20 MARY 20	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin

21	21 MARY 21	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin
22	22 MARY 22	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin
23	23 MARY 23	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin
24	24 MARY 24	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin
25	25 MARY 25	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin
26	26 MARY 26	Northern Territory, Mary River catchment area	Paul Delastans	ethanol	fin
1	1 FIT 1	Fitzroy River	Dave Morgan	DMSO/saline	fin
2	2 FIT 2	Fitzroy River	Dave Morgan	DMSO/saline	fin
3	3 FIT 3	Fitzroy River	Dave Morgan	DMSO/saline	fin
4	4 FIT 4	Fitzroy River	Dave Morgan	DMSO/saline	fin
5	5 FIT 5	Fitzroy River	Dave Morgan	DMSO/saline	fin
6	6 FIT 6	Fitzroy River	Dave Morgan	DMSO/saline	fin
7	7 FIT 7	Fitzroy River	Dave Morgan	DMSO/saline	fin
8	8 FIT 8	Fitzroy River	Dave Morgan	DMSO/saline	fin
9	9 FIT 9	Fitzroy River	Dave Morgan	DMSO/saline	fin
10	10 FIT 10	Fitzroy River	Dave Morgan	DMSO/saline	fin
11	11 FIT 11	Fitzroy River	Dave Morgan	DMSO/saline	fin
12	12 FIT 12	Fitzroy River	Dave Morgan	DMSO/saline	fin
13	13 FIT 13	Fitzroy River	Dave Morgan	DMSO/saline	fin
14	14 FIT 14	Fitzroy River	Dave Morgan	DMSO/saline	fin
15	15 FIT 15	Fitzroy River	Dave Morgan	DMSO/saline	fin
16	16 FIT 16	Fitzroy River	Dave Morgan	DMSO/saline	fin
17	17 FIT 17	Fitzroy River	Dave Morgan	DMSO/saline	fin
18	18 FIT 18	Fitzroy River	Dave Morgan	DMSO/saline	fin
19	19 FIT 19	Fitzroy River	Dave Morgan	DMSO/saline	fin
20	20 FIT 20	Fitzroy River	Dave Morgan	DMSO/saline	fin
21	21 FIT 21	Fitzroy River	Dave Morgan	DMSO/saline	fin
22	22 FIT 22	Fitzroy River	Dave Morgan	DMSO/saline	fin
23	23 FIT 23	Fitzroy River	Dave Morgan	DMSO/saline	fin
24	24 FIT 24	Fitzroy River	Dave Morgan	DMSO/saline	fin
25	25 FIT 25	Fitzroy River	Dave Morgan	DMSO/saline	fin
26	26 FIT 26	Fitzroy River	Dave Morgan	DMSO/saline	fin
27	27 FIT 27	Fitzroy River	Dave Morgan	DMSO/saline	fin
28	28 FIT 28	Fitzroy River	Dave Morgan	DMSO/saline	fin
29	29 FIT 29	Fitzroy River	Dave Morgan	DMSO/saline	fin
30	30 FIT 30	Fitzroy River	Dave Morgan	DMSO/saline	fin
31	31 FIT 31	Fitzroy River	Dave Morgan	DMSO/saline	fin
32	32 FIT 32	Fitzroy River	Dave Morgan	DMSO/saline	fin
33	33 FIT 33	Fitzroy River	Dave Morgan	DMSO/saline	fin
34	34 FIT 34	Fitzroy River	Dave Morgan	DMSO/saline	fin
35	35 FIT 35	Fitzroy River	Dave Morgan	DMSO/saline	fin
36	36 FIT 36	Fitzroy River	Dave Morgan	DMSO/saline	fin
37	37 FIT 37	Fitzroy River	Dave Morgan	DMSO/saline	fin
38	38 FIT 38	Minni River (Fitzroy)	Dave Morgan	DMSO/saline	fin
39	39 FIT 39	Minni River (Fitzroy)	Dave Morgan	DMSO/saline	fin
40	40 FIT 40	Minni River (Fitzroy)	Dave Morgan	DMSO/saline	fin
41	41 FIT 41	Marlargo River (Fitzroy)	Dave Morgan	DMSO/saline	fin
42	42 FIT 42	Jiliyardi (Fitzroy)	Dave Morgan	DMSO/saline	fin
43	43 FIT 43	Geiki Gorge (Fitzroy)	Dave Morgan	ethanol	fin
44	44 FIT 44	Geiki Gorge (Fitzroy)	Dave Morgan	ethanol	fin

45	45	FIT 45	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
46	46	FIT 46	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
47	47	FIT 47	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
48	48	FIT 48	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
49	49	FIT 49	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
50	50	FIT 50	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
51	51	FIT 51	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
52	52	FIT 52	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
53	53	FIT 53	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
54	54	FIT 54	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
55	55	FIT 55	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
56	56	FIT 56	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
57	57	FIT 57	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	muscle
58	58	FIT 58	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
59	59	FIT 59	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
60	60	FIT 60	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
61	61	FIT 61	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
62	62	FIT 62	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
63	63	FIT 63	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
64	64	FIT 64	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
65	65	FIT 66	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	muscle
66	66	FIT 67	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	muscle
67	67	FIT 67L	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	liver
68	68	FIT 68	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
69	69	FIT 69	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
70	70	FIT 70	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	muscle
71	71	FIT 71	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	muscle
72	72	FIT 74	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	muscle
73	73	FIT 76	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
74	74	FIT 77	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
75	75	FIT 78	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
76	76	FIT 79	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	muscle
77	77	FIT 80	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
78	78	FIT 81	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	muscle
79	79	FIT 82	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
80	80	FIT 83	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
81	81	FIT 84	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
82	82	FIT 85	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
83	83	FIT 86	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
84	84	FIT 87	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
85	85	FIT 88	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
86	86	FIT 89	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
87	87	FIT 90	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
88	88	FIT 91	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
89	89	FIT 92	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
90	90	FIT 93	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
91	91	FIT 94	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
92	92	FIT 95	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
93	93	FIT 96	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
94	94	FIT 97	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
95	95	FIT 98	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin

96	96	FIT 99	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
97	97	FIT 100	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
98	98	FIT 101	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
99	99	FIT 102	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
100	100	FIT 103	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
101	101	FIT 104	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
102	102	FIT 105	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
103	103	FIT 106	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
104	104	FIT 107	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
105	105	FIT 108	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
106	106	FIT 109	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
107	107	FIT 110	Fitzroy River-Milli Milli pool-tidal	Mark Allen	DMSO/saline	fin
108	108	FIT 130	Fitzroy River	Dave Morgan	DMSO/saline	fin
109	109	FIT 131	Fitzroy River	Dave Morgan	DMSO/saline	fin
110	110	FIT 132	Fitzroy River	Dave Morgan	DMSO/saline	fin
111	111	FIT 133	Fitzroy River	Dave Morgan	DMSO/saline	fin
112	112	FIT 134	Fitzroy River	Dave Morgan	DMSO/saline	fin
113	113	FIT 135	Fitzroy River	Dave Morgan	DMSO/saline	fin
114	114	FIT 136	Fitzroy River	Dave Morgan	DMSO/saline	fin
115	115	FIT 137	Fitzroy River	Dave Morgan	DMSO/saline	fin
116	116	FIT 138	Fitzroy River	Dave Morgan	DMSO/saline	fin
117	117	FIT 139	Fitzroy River	Dave Morgan	DMSO/saline	fin
118	118	FIT 140	Fitzroy River	Dave Morgan	DMSO/saline	fin
119	119	FIT 141	Fitzroy River	Dave Morgan	DMSO/saline	fin
120	120	FIT 142	Fitzroy River	Dave Morgan	DMSO/saline	fin
121	121	FIT 143	Fitzroy River	Dave Morgan	DMSO/saline	fin
122	122	FIT 144	Fitzroy River	Dave Morgan	DMSO/saline	fin
123	123	FIT 145	Fitzroy River	Dave Morgan	DMSO/saline	fin
124	124	FIT 146	Fitzroy River	Dave Morgan	DMSO/saline	fin
125	125	FIT 147	Fitzroy River	Dave Morgan	DMSO/saline	fin
126	126	FIT 148	Fitzroy River	Dave Morgan	DMSO/saline	fin
127	127	FIT 149	Fitzroy River	Dave Morgan	DMSO/saline	fin
128	128	FIT 150	Fitzroy River	Dave Morgan	DMSO/saline	fin
129	129	FIT 151	Fitzroy River	Dave Morgan	DMSO/saline	fin
130	130	FIT 152	Fitzroy River	Dave Morgan	DMSO/saline	fin
131	131	MA/FIT 1	Fitzroy/Margaret River	Dave Morgan	ethanol	fin
132	132	MA/FIT 2	Fitzroy/Margaret River	Dave Morgan	ethanol	fin
133	133	MA/FIT 3	Fitzroy/Margaret River	Dave Morgan	ethanol	fin
134	134	MA/FIT 4	Fitzroy/Margaret River	Dave Morgan	ethanol	fin
135	135	MA/FIT 5	Fitzroy/Margaret River	Dave Morgan	ethanol	fin
136	136	MA/FIT 6	Fitzroy/Margaret River	Dave Morgan	ethanol	fin
137	137	MA/FIT 7	Fitzroy/Margaret River	Dave Morgan	ethanol	fin
138	138	MA/FIT 8	Fitzroy/Margaret River	Dave Morgan	ethanol	fin
1	1	ORD 1	Ord River	Howard Gill	DMSO/saline	muscle
2	2	ORD 2	Ord River	Howard Gill	DMSO/saline	fin
3	3	ORD 3	Ord River	Howard Gill	DMSO/saline	muscle
4	4	ORD 4	Ord River	Howard Gill	DMSO/saline	fin
5	5	ORD 5	Ord River	Howard Gill	DMSO/saline	fin
6	6	ORD 6	Ord River	Howard Gill	DMSO/saline	fin
7	7	ORD 7	Ord River	Howard Gill	DMSO/saline	fin

8	8	ORD 8	Ord River	Howard Gill	DMSO/saline	fin
9	9	ORD 9	Ord River	Howard Gill	DMSO/saline	fin
10	10	ORD 10	Ord River	Howard Gill	DMSO/saline	fin
11	11	ORD 11	Ord River	Howard Gill	DMSO/saline	fin
12	12	ORD 12	Ord River	Howard Gill	DMSO/saline	fin
13	13	ORD 13	Ord River	Howard Gill	DMSO/saline	fin
14	14	ORD 14	Ord River	Howard Gill	DMSO/saline	fin
15	15	ORD 15	Ord River	Howard Gill	DMSO/saline	fin
16	16	ORD 16	Ord River	Howard Gill	DMSO/saline	fin
17	17	ORD 17	Ord River	Howard Gill	DMSO/saline	fin
18	18	ORD 18	Ord River	Howard Gill	DMSO/saline	fin
19	19	ORD 19	Ord River	Howard Gill	DMSO/saline	fin
20	20	ORD 20	Ord River	Howard Gill	DMSO/saline	muscle
21	21	ORD 21	Ord River	Howard Gill	DMSO/saline	fin
22	22	ORD 22	Ord River	Howard Gill	DMSO/saline	fin
23	23	ORD 23	Ord River	Howard Gill	DMSO/saline	fin
24	24	ORD 24	Ord River	Howard Gill	DMSO/saline	muscle
25	25	ORD 25	Ord River	Howard Gill	DMSO/saline	fin
26	26	ORD 26	Ord River	Howard Gill	DMSO/saline	muscle
27	27	ORD 27	Ord River	Dave Morgan	DMSO/saline	muscle
28	28	ORD 28	Ord River	Dave Morgan	DMSO/saline	muscle
29	29	ORD 29	Ord River	Dave Morgan	DMSO/saline	muscle
30	30	ORD 30	Ord River	Dave Morgan	DMSO/saline	muscle
31	31	ORD 31	Ord River	Dave Morgan	DMSO/saline	muscle
32	32	ORD 32	Ord River	Dave Morgan	DMSO/saline	fin
33	33	ORD 33	Ord River	Dave Morgan	DMSO/saline	fin
34	34	ORD 34	Ord River	Dave Morgan	DMSO/saline	fin
35	35	ORD 35	Ord River	Dave Morgan	DMSO/saline	muscle
1	1	ASH 1	Ashburton River	Dave Morgan	DMSO/saline	fin
2	2	ASH 2	Ashburton River	Carina/Graham Page/Martine Hawkins	DMSO/saline	fin
3	3	ASH 3	Ashburton River	Carina/Graham Page/Martine Hawkins	DMSO/saline	fin
4	4	ASH 4	Ashburton River	Carina/Graham Page/Martine Hawkins	DMSO/saline	fin
5	5	ASH 5	Ashburton River	Carina/Graham Page/Martine Hawkins	DMSO/saline	fin
6	6	ASH 61	Ashburton River-salt	Graham Page	DMSO/saline	fin/frozen
7	7	ASH 61	Ashburton River-salt	Graham Page	DMSO/saline	fin/frozen
8	8	ASH 66	Ashburton River	Graham Page	DMSO/saline	fin/frozen
1	1	DEG 1	Turner River	Dave Morgan	DMSO/saline	fin
2	2	DEG 2	Degrey River	Dave Morgan	DMSO/saline	fin
3	3	DEG 60	Degrey River	Mark Allen	DMSO/saline	fin
4	4	DEG 64	Degrey River	Mark Allen	DMSO/saline	fin
5	5	DEG 55	Degrey River	Mark Allen	DMSO/saline	fin
6	6	DEG 65	Degrey River	Mark Allen	DMSO/saline	fin
7	7	DEG 54	Degrey River	Mark Allen	DMSO/saline	fin
8	8	DEG 50	Degrey River	Mark Allen	DMSO/saline	fin
9	9	DEG 40	Degrey River	Mark Allen	DMSO/saline	fin
10	10	DEG 39	Degrey River	Mark Allen	DMSO/saline	fin
11	11	DEG 49	Degrey River	Mark Allen	DMSO/saline	fin
12	12	DEG 701	Degrey River	Mark Allen	DMSO/saline	fin
13	13	DEG 45	Degrey River	Mark Allen	DMSO/saline	fin

14	14	DEG 44	Degrey River	Mark Allen	DMSO/saline	fin
15	15	DEG 4	Yule River	Dave Morgan	DMSO/saline	fin
16	16	DEG 5	Yule River	Dave Morgan	DMSO/saline	fin
17	17	DEG 36	Degrey River-salt	Mark Allen	DMSO/saline	fin
18	18	DEG 37	Degrey River-salt	Mark Allen	DMSO/saline	fin
19	19	DEG 38	Degrey River-salt	Mark Allen	DMSO/saline	fin
20	20	DEG 41	Degrey River-salt	Mark Allen	DMSO/saline	fin
21	21	DEG 42	Degrey River-salt	Mark Allen	DMSO/saline	fin
22	22	DEG 43	Degrey River-salt	Mark Allen	DMSO/saline	fin
23	23	DEG 46	Degrey River-salt	Mark Allen	DMSO/saline	fin
24	24	DEG 47	Degrey River-salt	Mark Allen	DMSO/saline	fin
25	25	DEG 48	Condon (10km east of DeGrey)	Mark Allen	DMSO/saline	fin
26	26	DEG 51	Degrey River-salt	Mark Allen	DMSO/saline	fin
27	27	DEG 52	Degrey River-salt	Mark Allen	DMSO/saline	fin
28	28	DEG 53	Condon (10km east of DeGrey)	Mark Allen	DMSO/saline	fin
29	29	DEG 56	Degrey River-salt	Mark Allen	DMSO/saline	fin
30	30	DEG 57	Degrey River-salt	Mark Allen	DMSO/saline	fin
31	31	DEG 58	Degrey River-salt	Mark Allen	DMSO/saline	fin
32	32	DEG 59	Degrey River-salt	Mark Allen	DMSO/saline	fin
33	33	DEG 61	Degrey River-salt	Mark Allen	DMSO/saline	fin
34	34	DEG 62	Degrey River-salt	Mark Allen	DMSO/saline	fin
35	35	DEG 63	Degrey River-salt	Mark Allen	DMSO/saline	fin
36	36	DEG 66	Degrey River-salt	Mark Allen	DMSO/saline	fin
37	37	DEG 67	Degrey River-salt	Mark Allen	DMSO/saline	fin
38	38	DEG 68	Degrey River-salt	Mark Allen	DMSO/saline	fin
39	39	DEG 69	Degrey River-salt	Mark Allen	DMSO/saline	fin
40	40	DEG 70	Degrey River	Mark Allen	DMSO/saline	fin
41	41	DEG 71	Degrey River	Mark Allen	DMSO/saline	fin
42	42	DEG 72	Degrey River	Mark Allen	DMSO/saline	fin
43	43	DEG 73	Degrey River	Mark Allen	DMSO/saline	fin
44	44	DEG 74	Degrey River	Mark Allen	DMSO/saline	fin
45	45	DEG 75	Degrey River	Mark Allen	DMSO/saline	fin
46	46	DEG 80	Pulkamurra River	Mark Allen	DMSO/saline	fin
47	47	DEG 81	Pulkamurra River	Mark Allen	DMSO/saline	fin
48	48	DEG 82	Degrey River	Mark Allen	DMSO/saline	fin
1	1	PNG 1	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
2	2	PNG 2	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
3	3	PNG 3	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
4	4	PNG 4	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
5	5	PNG 5	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
6	6	PNG 6	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
7	7	PNG 7	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
8	8	PNG 8	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
9	9	PNG 9	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
10	10	PNG 10	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
11	11	PNG 11	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
12	12	PNG 12	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
13	13	PNG 13	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
14	14	PNG 14	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
15	15	PNG 15	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle

16	16 PNG 16	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
17	17 PNG 17	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
18	18 PNG 18	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
19	19 PNG 19	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
20	20 PNG 20	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
21	21 PNG 21	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
22	22 PNG 22	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
23	23 PNG 23	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
24	24 PNG 24	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
25	25 PNG 25 -gone	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
26	26 PNG 26	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
27	27 PNG 27	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
28	28 PNG 28	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
29	29 PNG 29	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
30	30 PNG 30	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
31	31 PNG 31- gone	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
32	32 PNG 32- gone	Papua New Guinea-Middle Fly River	John Salini	DMSO/saline	muscle
1	1 IND 1	Indonesia-Bali-Denpasar-Jimbaran Bay area-Kendonanan fish market	Will White	DMSO/saline	fin
2	2 IND 2	Indonesia-Bali-Denpasar-Jimbaran Bay area-Kendonanan fish market	Will White	DMSO/saline	fin
3	3 IND 3	Indonesia-Bali-Denpasar-Jimbaran Bay area-Kendonanan fish market	Will White	DMSO/saline	fin
4	4 IND 4	Indonesia-Bali-Denpasar-Jimbaran Bay area-Kendonanan fish market	Will White	DMSO/saline	fin
5	5 IND 5	Indonesia-Bali-Denpasar-Jimbaran Bay area-Kendonanan fish market	Will White	DMSO/saline	fin
total:325 samples					
1	FNQ 1	FN Queensland-Rutland Plains-Nassav River-brackish	Bill and Gabby Ware	DMSO/saline	fin
2	FNQ 2	FN Queensland-Rutland Plains-Nassav River-brackish	Bill and Gabby Ware	DMSO/saline	fin
3	FNQ 3	FN Queensland-Rutland Plains-Nassav River-brackish	Bill and Gabby Ware	DMSO/saline	fin
4	FNQ 4	FN Queensland-Rutland Plains-Nassav River-brackish	Bill and Gabby Ware	DMSO/saline	fin
5	FNQ 5	FN Queensland-Rutland Plains-Nassav River-brackish	Bill and Gabby Ware	DMSO/saline	fin
6	FNQ 6	FN Queensland-Rutland Plains-Nassav River-brackish	Bill and Gabby Ware	DMSO/saline	fin
7	FNQ 7	FN Queensland-Rutland Plains-Nassav River-brackish	Bill and Gabby Ware	DMSO/saline	fin
8	FNQ 8	FN Queensland-Rutland Plains-Cabbage Creek-salt	Bill and Gabby Ware	DMSO/saline	fin
9	FNQ 9	FN Queensland-Rutland Plains-Cabbage Creek-salt	Bill and Gabby Ware	DMSO/saline	fin
10	FNQ 10	FN Queensland-Rutland Plains-Cabbage Creek-salt	Bill and Gabby Ware	DMSO/saline	fin
11	FNQ 11	FN Queensland-Rutland Plains-Cabbage Creek-salt	Bill and Gabby Ware	DMSO/saline	fin
12	FNQ 12	FN Queensland-Rutland Plains-Cabbage Creek-salt	Bill and Gabby Ware	DMSO/saline	fin
13	FNQ 13	FN Queensland-Rutland Plains-Topsi Creek-salt-upstream	Bill and Gabby Ware	DMSO/saline	fin
14	FNQ 14	FN Queensland-Rutland Plains-Doughboy River-salt-mouth Rutland Plains approx 50 k from Kowanyama	Bill and Gabby Ware	DMSO/saline	fin
1	NKC 1	North Lawley River	Barry Weir	DMSO/saline	fin
2	NKC 2	North Lawley River	Barry Weir	DMSO/saline	fin
3	NKC 3	North Lawley River	Barry Weir	DMSO/saline	fin
4	NKC 4	North Lawley River	Barry Weir	DMSO/saline	fin
5	NKC 5	North Port Warrender	Barry Weir	DMSO/saline	fin
6	NKC 6	North Port Warrender	Barry Weir	DMSO/saline	fin
7	NKC 7	North Port Warrender	Barry Weir	DMSO/saline	fin
8	NKC 8	North Port Warrender	Barry Weir	DMSO/saline	fin
9	NKC 9	North Port Warrender	Barry Weir	DMSO/saline	fin
10	NKC 10	North Port Warrender	Barry Weir	DMSO/saline	fin
11	NKC 11	North Port Warrender	Barry Weir	DMSO/saline	fin

12 NKC 12	North Port Warrender	Barry Weir	DMSO/saline	fin
13 NKC 13	North east Admiralty Gulf	Barry Weir	DMSO/saline	fin
14 NKC 14	North east Admiralty Gulf	Barry Weir	DMSO/saline	fin
15 NKC 15	North east Admiralty Gulf	Barry Weir	DMSO/saline	fin
16 NKC 16	North east Admiralty Gulf	Barry Weir	DMSO/saline	fin
17 NKC 17	North east Admiralty Gulf	Barry Weir	DMSO/saline	fin
18 NKC 18	North east Admiralty Gulf	Barry Weir	DMSO/saline	fin
19 NKC 19	North east Admiralty Gulf	Barry Weir	DMSO/saline	fin
20 NKC 20	North east Admiralty Gulf	Barry Weir	DMSO/saline	fin
21 NKC 21	North east Admiralty Gulf	Barry Weir	DMSO/saline	fin
22 NKC 22	North east Admiralty Gulf	Barry Weir	DMSO/saline	fin
23 NKC 23	North east Admiralty Gulf	Barry Weir	DMSO/saline	fin
24 NKC 24	South Vansittart Bay	Barry Weir	DMSO/saline	fin
25 NKC 25	South Vansittart Bay	Barry Weir	DMSO/saline	fin
26 NKC 26	South Vansittart Bay	Barry Weir	DMSO/saline	fin
27 NKC 27	South Vansittart Bay	Barry Weir	DMSO/saline	fin
28 NKC 28	South Vansittart Bay	Barry Weir	DMSO/saline	fin
1 BRM 1	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
2 BRM 2	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
3 BRM 3	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
4 BRM 4	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
5 BRM 5	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
6 BRM 6	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
7 BRM 7	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
8 BRM 8	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
9 BRM 9	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
10 BRM 10	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
11 BRM 11	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
12 BRM 12	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
13 BRM 13	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
14 BRM 14	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
15 BRM 15	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
16 BRM 16	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
17 BRM 17	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
18 BRM 18	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
19 BRM 19	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
20 BRM 20	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
21 BRM 21	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
22 BRM 22	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
23 BRM 23	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
24 BRM 24	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
25 BRM 25	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
26 BRM 26	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
27 BRM 27	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
28 BRM 28	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
29 BRM 29	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin
30 BRM 30	Roebuck Bay, south of Broome	Graham Rogers	DMSO/saline	fin