

SUMMARY QF HUMPBACK WHALE CALFS: 2011
This document contains a summary of calfs encountered during the 2011
humpback whale season in Vava'u, Kingdom of Tonga. For additional
information contact Tony Wu. (Version: 01 Nov '11)
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## INTRODUCTION

This document is a summary of humpback whale calf encounters in and around the Vava'u island group in the Kingdom of Tonga during the months of August to October 2011.

During our stay this year (05 August to 01 October), we identified 45 humpback whale mother/ calf pairs over the course of 73 in-water encounters, with three additional IDs contributed by friends, for a total of 48 humpback whale mother/ calf pairs.

We initially recorded 33 sightings of calfs that we were unable to identify at the time of encounter. We were later able to assign IDs to two of those 33 in the process of preparing this summary, lowering the total unknown calf sightings to 31.

This is the highest number of mother/ calf pairs we have identified and tabulated since commencing this annual calf count project in 2008.

This season was notable in other respects as well:

- There were reliable reports of whales arriving in the Vava'u area by mid-June, with calf sightings reported before the end of June. This is several weeks earlier than the timing in a hypothetical average season, and contrasts with the relatively late arrival of the whales in 2010. The whales did not, however, seem to leave the area any earlier than normal.
- Overall whale behaviour/ disposition was "neutral", meaning significantly less standoffish than in 2010, but not as approachable as in "friendly" seasons like 2009.
- We documented three returning mothers. The mother of 201132 Toluua was also the mother of 200913 Luna, easily recognisable by her unique dorsal fin. Of note, her relaxed disposition was the same as it was two years ago, and both juveniles were friendly and inquisitive. The mother of 201107 Fitu was the same as the mother of 200920 Mama's Boy. And the mother of 201115 Tahanima was the same as the mother of 200814 Jet.
- We documented three mother/ calf pairs travelling between Vava'u and Toku Island, about 40 km away. Travel among islands is not unusual, but it is the first time we have documented this taking place with photographs and GPS data.
- For the first time, we recorded data pertaining to escort relationships with mother/ calf pairs. Over half of all mother/ calf pair encounters involved at least one escort, which seems to be a relatively high ratio viz. other humpback whale breeding and calving grounds.
- We documented two long-term associations between an escort and mother/ calf pair: At least 14 days for 201114 Tahafa and at least 18 days for 201142 Faua. This is the first time we have observed/ noticed this. Such long-term associations seem to be unusual, or perhaps not well documented.
- Of interest, in both cases of long-term escort association, the mother/ calf pairs undertook the 40 km journey between Vava'u and Toku while in the company of their respective longterm escorts.
- We also documented three occasions when escorts with mother/ calf pairs were singing, or vocalising in a song-like manner: 201114 Tahafa, 201121 Uataha and 201130 Tolunoa. We have come across this behaviour on multiple occasions in previous seasons as well.
- There were two juveniles with all-white pectoral fins, the first we've seen in the Vava'u area. They were 201127 Uafitu and 201142 Faua.
- We documented several juvenile whales with injuries that suggest coordinated attack by a pod of marine mammals, possibly false killer whales (Pseudorca crassidens).

Overall, there was an abundance of whales this season, a lot of interesting social interaction, and many opportunities to observe and record humpback whale behaviour. This document focuses upon the mother/ calf pairs and associated whales. For additional background information, please refer to the following blog posts:

Swimming with Humpback Whales in Tonga | 2011 Season Part 1
Swimming with Humpback Whales in Tonga | 2011 Season Part 2
Swimming with Humpback Whales in Tonga | 2011 Season Part 3
Swimming with Humpback Whales in Tonga| 2011 Season Part 4
Swimming with Humpback Whales in Tonga $\mid 2011$ Season Part 5
Swimming with Humpback Whales in Tonga $\mid 2011$ Season Part 6
Swimming with Humpback Whales in Tonga $\mid 2011$ Season Part 7
Swimming with Humpback Whales in Tonga | 2011 Season Part 8
All of this work has been and is being done on our own time, with our own resources. We are not receiving financial or other assistance, and we are not affiliated with any person or organisation involved with cetaceans.

If you have photographs of humpback whale mother/ calf pairs from the 2011 season in Vava'u that are not included in this file, or additional information about whales already included in this document, please contact Tony Wu.

## Reference documents:

2008 Calf Summary, 2009 Calf Summary, 2010 Calf Summary

## METHODOLOGY

1. Our basic methodology has remained unchanged since commencing this calf count project, with our core ID team comprising Tony Wu, Takaji Ochi, and Emiko Miyazaki.
2. We recorded GPS locations for all sightings of humpback whale calfs upon initial visual and/ or radio confirmation. We used Garmin GPS 60 and GPS 72H handheld units for marking GPS locations and converted to Google KML format using HoudahGPS. When GPS units were not available, we marked locations by hand on a map.
3. Where possible, we entered the water to photograph mother/ calf pairs and other associated whales if any.
4. We made notes of behaviour, easily recognisable physical traits, and any other noteworthy circumstances.
5. For the first time, we have recorded the number of escorts with each mother/ calf pair sighting, for the purpose of tracking escort activity from this season onward.
6. When we were able to take photographs of sufficient quality and quantity to establish an ID, we named and assigned a numerical ID to the relevant calf.
7. In those cases where we were unable to get sufficient photographs to establish ID, we did not name the calfs. We recorded the sightings as unknowns and cross-checked any photos of such juveniles with subsequent ID-ed whales to look for possible matches.
8. We have uploaded all the GPS and hand-marked location data to Google Maps, where the locations of all ID-ed calfs and unidentified calfs are available for viewing. GPS locations are also embedded as hyperlinks throughout this document when there is text that refers to date and location of sightings. Clicking the hyperlinks will take you to Google Maps to view the relevant location.
9. The photographs contained in this document represent a small portion of the images we collected. For most ID-ed calfs, we have many more images for verification purposes.

## OBSERVATIONS

1) Figure 1 below illustrates our cumulative calf counts over the past four seasons (incorporating all ID-ed juvenile whales each season, including those contributed by third parties). While we recognise that there are inherent differences in each season (different periods of stay, varying number of boat days, weather variations, etc.), the slope of the line representing cumulative calf count has appeared relatively similar across previous seasons. With the addition of data for 2011 however, a divergence in the slopes of the curves for 2009 and 2011 from those for 2008 and 2010 is apparent. This makes intuitive sense against the backdrop of the number of calf encounters, overall whale mood and other conditions in each season.


Figure 1: Cumulative ID-ed Calf Count*

* Includes all ID-ed mother/ calf pairs

2) During our stay this season, we had 73 encounters with 45 mother/ calf pairs that we identified over 76 boat-days on the water (compared with 22 calf IDs over 81 boat days in 2010; 26 calf IDs over 59 boat days in 2009; 16 calf IDs over 67 boat days in 2008; 14 calf IDs over 53 boat days in 2007). This worked out to 0.59 Calf/ Boat-day, with a boat-day being defined as a single day of approximately six hours on the water on a boat looking for whales. These figures do not include calf IDs contributed by other people.


Figure 2: ID-ed Calf/ Boat-day*

* Boat-day = single day of approximately six hours on the water on a boat looking for whales

3) As is apparent from Figure 2, this season was exceptional, with the Calf/ Boat-day ratio significantly exceeding the levels recorded in each of the previous seasons. In our 2010 summary, we posited that a Calf/ Boat-day ratio of 0.25 might represent the norm, with 2009 being an outlier. With this season's ratio of 0.59 however, the question of whether there is a normal level or not becomes more intriguing.
4) It is certainly possible that our experience in 2011 is exceptional, and that we will not see a similarly high number and density of humpback whale mother/ calf pairs in the Vava'u area in the future. However, given the 0.44 ratio recorded in 2009, and our personal recollections of similarly high numbers and frequency of mother/ calf pair encounters in 2004 and 2005, it seems possible that there is no "norm", and that the Calf/ Boat-day figure may vary unpredictably within a relatively broad band.
5) What this underscores is that extrapolating from limited observation in any single season to draw conclusions about the dynamics of the southern hemisphere humpback whale population is inadvisable. Only long-term observation and consistent recording of data may eventually reveal underlying patterns and trends.
6) In addition to the calf IDs we established, we received three more mother/ calf pair IDs from friends (201115 Tahanima from Shawn; 201143 Fatolu from Douglas, 201148 Favalu from Allan/ Ma'ata), bringing the total ID-ed calf count to 48.
7) In 2009, we commenced recording sightings of unknown mother/ calf pairs (those whales which we are unable to ID at the time), by marking GPS location, taking notes about behaviour, and taking photos when possible, for the purpose of trying to establish IDs at a later point. This year, we recorded 33 unknown mother/ calf pairs. We were later able to establish IDs for two of those 33 (Unknown calf \#10 = 201146 Faono; Unknown calf \#27 = 201147 Fafitu), meaning that we ended up with 31 unidentified calfs (compared with 16 in 2010; 24 in 2009).
8) Figure 3 depicts the total Calf Sighting Ratio for 2009 to 2011, where we have defined Calf Sighting Ratio as = (Total ID-ed calf count + Total unidentified calf count)/ Total boat-days. This ratio was 1.01, which compares with 0.49 for 2010 and 0.85 for 2009. This ratio provides a reasonable indication of the overall level of humpback whale mother/ calf pair activity in the Vava'u area.


Figure 3: Calf Sighting Ratio*

* Calf Sighting Ratio $=$ (Total ID-ed calf count + Total unidentified calf count)/ Total boat-days

9) We again found mother/ calf pairs throughout the entire topography of the Vava'u Island group without apparent clustering or preference for a specific area. As with 2010, however, there were not many sightings in North Bay, once again consistent with our experience from most previous seasons. 2009 was the exception, when we recorded a significant number of encounters in North Bay. We recorded more encounters in the Toku area than in previous seasons. This may, however, have been due to the fact that calm conditions prevailed for a number of days in the latter part of the season, allowing several visits to Toku. See map of ID-ed mother/ calf pairs and map of encounters with unidentified whales.
10) The pattern of sightings once again supports our notion that, for the most part, humpback whale mother/ calf pairs use Vava'u as a transit area, visiting for a short duration before moving on, returning to the area at a later date in some instances. Within this context however, we have documented a number of repeat sightings over extended periods of time:

- 201103 Tolu (4 encounters/ 30 days);
- 201114 Tahafa ( 9 encounters/ 33 days, Vava'u to Toku to Vava'u);
- 201120 Uanoa (3 encounters/ 27 days);
- 201123 Uatolu (2 encounters/ 29 days, Toku to Vava'u);
- 201130 Tolunoa (2 encounters/ 33 days); and
- 201142 Faua ( 2 encounters/ 18 days, Toku to Vava'u).

This adds to our long-term repeat sightings in previous seasons:

- 201005 Ikumi (11 encounters/ 31 days);
- 201008 Lele (3 encounters/ 11 days);
- 200904 Stitches (4 encounters/ 23 days); and
- 200912 Luna (3 encounters/ 13 days).

11) Of note is that in three of the long-term sightings for 2011, the relevant mother/ calf pairs were sighted in both Vava'u and Toku. This is the first time we have documented travel by mother/ calf pairs between the two locations, which are about 40 km apart.
12) As was the case in 2009 and 2010, the ratio of female to male juveniles favoured females. This year, we counted 13 females and 10 males. In 2010, it was 7 female to 4 male. In 2009, it was 14 female to 9 male. Given that this relationship has remained in favour of females for three consecutive seasons, it's tempting to speculate that females may represent a greater proportion of overall calf births than males. Since it is not possible to establish the sex of every juvenile encountered, we cannot be certain of this however, and need to consider other possible explanations as well. It could be the case, for instance, that mother/ calf pairs with female babies tend to be more favourably disposed to interacting with people.


Figure 4: Ratio of Female to Male Juveniles
13) We documented long-term escort relationships with two of the mother/ calf pairs sighted over an extended period of time. In the case of 201114 Tahafa, the same escort stayed with the mother/ calf pair from at least 01 September to 14 September ( 14 days). In the case of 201142 Faua, the same escort remained with mother and calf from at least 20 September to 07 October ( 18 days). To the best of our knowledge, such long-term escort + mother/ calf relationships have not been documented previously in this area.
14) Spurred in part by observation of these long-term escort + mother/ calf relationships, we commenced recording escort sightings this season. In several instances, we were able to observe the effects of escorts on mother/ calf behaviour. In some cases, the adult females appeared to dislike the attention of the males; in other cases, the presence of an escort seemed to have a calming effect. We have made notes of such behaviour in the individual ID pages that follow.
15) Out of 48 ID-ed mother/ calf pairs, 30 were accompanied by escorts in at least one encounter with the relevant mother/ calf pair, a ratio of 0.63 . Out of 76 total encounters with those 48 ID-ed mother/ calf pairs, 40 encounters involved at least one escort, a ratio of 0.53 . In the case of unidentified mother/ calf pairs, the ratio was 0.35 . We only calculated one ratio for unidentified mother/ calf pairs because we had only one encounter with each pair. In any event, the proportion of mother/ calf pairs accompanied by escorts was high. Subjectively, this is consistent with our experience in previous seasons.


Figure 5: Frequency of Escorts with Mother/ Calf Pairs*

- Escort Ratio (ID-ed) = ID-ed mother/ calf pairs that were accompanied by at least one escort in at least one of our encounters as a ratio of the total number of ID-ed mother/ calf pairs
- Escort Encounter Ratio (ID-ed) = Total number of encounters with ID-ed mother/ calf pairs that involved at least one escort as a ratio of the total number of encounters with all ID-ed mother/ calf pairs
- Escort Ratio (Not ID-ed) = Unidentified mother/ calf pairs that were accompanied by at least one escort in at least one of our encounters as a ratio of the total number of Unidentified mother/ calf pairs

16) We documented three repeat mothers this season, making a total of five females that we've documented returning to the Vava'u area with second babies since 2008.
a) The mother of 201132 Toluua was the same as the mother of 200913 Luna. Her unique dorsal fin made it easy to recognise her, and her overall friendly disposition in both 2009 and 2011 made it relatively easy to photograph her and the calf. Of note, both Toluua and Luna were inquisitive and pro-active in their approach to people in the water.
b) The mother of 201107 Fitu was the same as the mother of 200920 Mama's Boy.
c) The mother of 201115 Tahanima was the same as the mother of 200814 Jet.

|  | 2008 | 2009 | 2010 | 12011 |
| :--- | :--- | :--- | :---: | :---: |
| Female 1 | 200801 Scratches | 200904 Stitches ㅇ |  |  |
| Female 2 | 200816 Chibi-chan | 200929 Floppy 우 |  |  |
| Female 3 |  | 200920 Mama's Boy |  | 201107 Fitu |
| Female 4 | 200814 Jet |  |  | 201115 Tahanima |
| Female 5 |  | 200913 Luna 우 |  | 201132 Toluua 우 |

Figure 6: Females Documented Returning with Second Babies
17) We documented several juvenile whales with injuries that suggest coordinated attack by a pod of marine mammals, possibly false killer whales (Pseudorca crassidens). Refer to summary pages for 201107 Fitu, 201114 Tahafa, 201120 Uanoa, and 201144 Fafa to see the wounds. See also this blog post for a discussion of this topic.
18) We documented two juveniles with all-white pectoral fins: 201127 Uafitu and 201142 Faua. This is interesting because these are the first such calfs we have seen in the Vava'u area. In previous seasons, we had wondered where the adults with all-white pectoral fins come from, as we had not seen any juveniles with this trait.

Table 1: Humpback Whale Calf Identifications
Vava'u, Kingdom of Tonga (Aug-Oct 2011)
(Click here to see map of sightings)

| \# | NAME |  | DATES/ LOCATIONS (\# ESCORTS) |
| :---: | :---: | :---: | :---: |
| 1 | Taha | 우 | 09 Aug (0) |
| 2 | Ua |  | 09 Aug (0) |
| 3 | Tolu | $0^{7}$ | 11 Aug (0), 13 Aug (0), 18 Aug (1), 09 Sep (0) |
| 4 | Fa |  | 14 Aug (0) |
| 5 | Nima |  | 17 Aug (2) |
| 6 | Ono |  | 17 Aug (0) |
| 7 | Fitu |  | 17 Aug (1) |
| 8 | Valu |  | 18 Aug (1) |
| 9 | Hiva | 우 | 19 Aug (0), 31 Aug (0) |
| 10 | Hongofulu |  | 19 Aug (0) |
| 11 | Tahataha | 우 | 19 Aug (0) |
| 12 | Tahaua | 우 | 20 Aug (0), 23 Aug (0), 24 Aug (0) |
| 13 | Tahatolu | $0^{7}$ | 22 Aug (1), 23 Aug (1) |
| 14 | Tahafa | $0^{7}$ | 23 Aug (0), 01 Sep (1), 02 Sep (1), 03 Sep (1), 07 Sep (1), 09 Sep (1), 14 Sep (1), 16 Sep (0), 24 Sep (0), Vava'u and Toku |
| 15 | Tahanima | $0^{7}$ | 23 Aug (0) |
| 16 | Tahaono |  | 24 Aug (1) |
| 17 | Tahafitu |  | ID-ed 26 Aug (1), initial sighting 25 Aug (1) |
| 18 | Tahavalu |  | 27 Aug (1) |
| 19 | Tahahiva |  | 29 Aug (1) |
| 20 | Uanoa | $\sigma^{7}$ | ID-ed 29 Aug (0), initial sighting 24 Aug (0), 24 Sep (1) |
| 21 | Uataha | $\sigma^{7}$ | ID-ed 01 Sep (1), initial sighting 30 Aug (0 |
| 22 | Uaua |  | 31 Aug (1) |
| 23 | Uatolu |  | 02 Sep (1), 20 Sep (0), Vava'u and Toku |
| 24 | Uafa | 우 | 02 Sep (1) |
| 25 | Uanima |  | 02 Sep (0) |

Table 1: Humpback Whale Calf Identifications
Vava'u, Kingdom of Tonga (Aug-Oct 2011)
(Click here to see map of sightings)

| \# | NAME |  | DATES/ LOCATIONS (\# ESCORTS) |
| :---: | :---: | :---: | :---: |
| 26 | Uaono |  | 03 Sep (1) |
| 27 | Uafitu |  | 03 Sep (1), all-white pectoral fins |
| 28 | Uavalu |  | 03 Sep (1) |
| 29 | Uahiva | 우 | 05 Sep (0) |
| 30 | Tolunoa | 우 | ID-ed $05 \mathrm{Sep}(2)$, initial sighting 04 Aug (0) |
| 31 | Tolutaha | 우 | 07 Sep (3), 13 Sep (1), $14 \mathrm{Sep}(0), 15 \mathrm{Sep}(0)$ |
| 32 | Tolua | 우 | 09 Sep (1), same mother as 200913 Luna 우 |
| 33 | Tolutolu |  | 10 Sep (3) |
| 34 | Tolufa | $0^{7}$ | 10 Sep (0), 15 Sep (0), 16 Sep (0) |
| 35 | Tolunima | 우 | 12 Sep (0) |
| 36 | Toluono | $0^{7}$ | 12 Sep (0) |
| 37 | Tolufitu |  | 13 Sep (0) |
| 38 | Toluvalu |  | 14 Sep (0) |
| 39 | Toluhiva |  | 16 Sep (1) |
| 40 | Fanoa | $0^{7}$ | 16 Sep (1) |
| 41 | Fataha |  | 20 Sep (1) |
| 42 | Faua | $0^{7}$ | 20 Sep (1), 07 Oct (1), Vava'u and Toku, all-white pectoral fins |
| 43 | Fatolu | 우 | 13 Sep (0) |
| 44 | Fafa | 우 | 22 Sep (0) |
| 45 | Fanima | 우 | 27 Sep (1) |
| 46 | Faono |  | 01 Sep (1), 06 Sep (0), initially recorded at Unknown calf \#10 |
| 47 | Fafitu |  | 16 Sep (3), initially recorded as Unknown calf \#27 |
| 48 | Favalu |  | 13 Oct (1) |

Table 2: Timeline of Sightings - Identified Humpback Whale Mother/ Calf Pairs
Vava'u, Kingdom of Tonga (Aug-Oct 2011). Blue = full moon. Green = new moon.

| AUG | CALF (ESCORTS) | SEP | CALF (ESCORTS) | OCT | CALF (ESCORTS) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 |  | 1 | Tahafa (1), Uataha (1), Faono (1) | 1 |  |
| 2 |  | 2 | Tahafa (1), Uatolu (1), Uafa (1), Uanima (0) | 2 |  |
| 3 |  | 3 | Tahafa (1), Uanoa (1), Uaono (1), Uafitu (1), Uavalu (1) | 3 |  |
| 4 | Tolunoa (0) | 4 |  | 4 |  |
| 5 |  | 5 | Uahiva (0), Tolunoa (2) | 5 |  |
| 6 |  | 6 | Faono (0) | 6 |  |
| 7 |  | 7 | Tahafa (1), Tolutaha (3) | 7 | Faua (1) |
| 8 |  | 8 |  | 8 |  |
| 9 | Taha (0), Ua (0) | 9 | Tolu (0), Tahafa (1), Toluua (1) | 9 |  |
| 10 |  | 10 | Tolutolu (3), Tolufa (0) | 10 |  |
| 11 | Tolu (0) | 11 |  | 11 |  |
| 12 |  | 12 | Tolunima (0), Toluono (0) | 12 |  |
| 13 | Tolu (0) | 13 | Tolutaha (1), Tolufitu (0), Fatolu (0) | 13 | Favalu (1) |
| 14 | Fa (0) | 14 | Tahafa (1), Tolutaha (0), Toluvalu (0) | 14 |  |
| 15 |  | 15 | Tolutaha (0), Tolufa (0) | 15 |  |
| 16 |  | 16 | Tahafa (0), Tolufa (0), Toluhiva (1), Fanoa (1), Fafitu (3) | 16 |  |
| 17 | Nima (2), Ono (0), Fitu (1) | 17 |  | 17 |  |
| 18 | Tolu (1), Valu (1) | 18 |  | 18 |  |
| 19 | Hiva (0), Hongofulu (0), Tahataha (0) | 19 |  | 19 |  |
| 20 | Tahaua (0) | 20 | Uatolu (0), Fataha (1), Faua (1) | 20 |  |
| 21 |  | 21 |  | 21 |  |
| 22 | Tahatolu (1) | 22 | Fafa (0) | 22 |  |
| 23 | Tahaua (0), Tahatolu (1), Tahafa (0), Tahanima (0) | 23 |  | 23 |  |
| 24 | Tahaua (0), Tahaono (1), Uanoa (0) | 24 | Tahafa (0), Uanoa (1) | 24 |  |
| 25 | Tahafitu (1) | 25 |  | 25 |  |
| 26 | Tahafitu (1) | 26 |  | 26 |  |
| 27 | Tahavalu (1) | 27 | Fanima (1) | 27 |  |
| 28 |  | 28 |  | 28 |  |
| 29 | Tahahiva (1), Uanoa (0) | 29 |  | 29 |  |
| 30 | Uataha (0) | 30 |  | 30 |  |
| 31 | Hiva (0), Uaua (1) |  |  | 31 |  |

Table 3: Unidentified Humpback Whale Calf Sightings
Vava'u, Kingdom of Tonga (Aug-Oct 2011)
(Click here to see map of sightings)

| \# | DATES/ LOCATIONS (\# ESCORTS) | \# | DATES/ LOCATIONS (\# ESCORTS) |
| :---: | :---: | :---: | :---: |
| 1 | 13 Aug (0) | 26 | 16 Sep (1) |
| 2 | 14 Aug (0) | 27 | 16 Sep (3) <br> Assigned ID 201147 Fafitu |
| 3 | 23 Aug (1) | 28 | $17 \mathrm{Sep}(2)$ |
| 4 | 23 Aug (0) | 29 | 17 Sep (0) |
| 5 | 25 Aug (0) | 30 | $17 \mathrm{Sep}(0)$ |
| 6 | 27 Aug (0) | 31 | 19 Sep (2) |
| 7 | 30 Aug (1) | 32 | 21 Sep (1) |
| 8 | 31 Aug (0) | 33 | 27 Sep (0) |
| 9 | 01 Sep (0) |  |  |
| 10 | 01 Sep (1), 06 Sep (0) <br> Assigned ID 201146 Fanoa |  |  |
| 11 | $01 \mathrm{Sep}(0)$ |  |  |
| 12 | $01 \mathrm{Sep}(0)$ |  |  |
| 13 | 01 Sep (0) |  |  |
| 14 | 02 Sep (3) |  |  |
| 15 | 03 Sep (1) |  |  |
| 16 | 03 Sep (0) |  |  |
| 17 | 06 Sep (0) |  |  |
| 18 | 06 Sep (0) |  |  |
| 19 | 09 Sep (1) |  |  |
| 20 | 12 Sep (0) |  |  |
| 21 | 13 Sep (1) |  |  |
| 22 | 14 Sep (0) |  |  |
| 23 | 14 Sep (0) |  |  |
| 24 | 14 Sep (3) |  |  |
| 25 | 14 Sep (5) |  |  |

Table 4: Timeline of All Humpback Whale Mother/ Calf Pair Sightings
Vava'u, Kingdom of Tonga (Aug-Oct 2011). Blue = full moon. Green = new moon.

| AUG | CALF (ESCORTS) | SEP | CALF (ESCORTS) | OCT | CALF (ESCORTS) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 |  | 1 | Tahafa (1), Uataha (1), Faono/ Calf 10 (1), Calf 9 (0), Calf 11 (0), Calf 12 (0), Calf 13 (0) | 1 |  |
| 2 |  | 2 | Tahafa (1), Uatolu (1), Uafa (1), Uanima (0), Calf 14 (3) | 2 |  |
| 3 |  | 3 | Tahafa (1), Uanoa (1), Uafitu (1), Uavalu (1), Calf 15 (1), Calf 16 (0), Calf 17 (0) | 3 |  |
| 4 | Tolunoa (0) | 4 |  | 4 |  |
| 5 |  | 5 | Uahiva (0), Tolunoa (2) | 5 |  |
| 6 |  | 6 | Faono/ Calf 10 (0), Calf 18 (0) | 6 |  |
| 7 |  | 7 | Tahafa (1), Tolutaha (3) | 7 | Faua (1) |
| 8 |  | 8 |  | 8 |  |
| 9 | Taha (0), Ua (0) | 9 | Tolu (0), Tahafa (1), Toluua (1), Calf 19 (0) | 9 |  |
| 10 |  | 10 | Tolutolu (3), Tolufa (0) | 10 |  |
| 11 | Tolu (0) | 11 |  | 11 |  |
| 12 |  | 12 | Tolunima (0), Toluono (0), Calf 20 (0) | 12 |  |
| 13 | Tolu (0), Calf 1 (0) | 13 | Tolutaha (1), Tolufitu (0), Fatolu (0), Calf 21 (1) | 13 | Favalu (1) |
| 14 | Fa (0), Calf 2 (0) | 14 | Tahafa (1), Tolutaha (0), Toluvalu (0), Calf 22 (0), Calf 23 (0), Calf 24 (3), Calf 25 (5) | 14 |  |
| 15 |  | 15 | Tolutaha (0), Tolufa (0) | 15 |  |
| 16 |  | 16 | Tahafa (0), Tolufa (0), Toluhiva (1), Fanoa (1), Fafitu/ Calf 27 (3), Calf 26 (1) | 16 |  |
| 17 | Nima (2), Ono (0), Fitu (1) | 17 | Calf 28 (2), Calf 29 (0), Calf 30 (0) | 17 |  |
| 18 | Tolu (1), Valu (1) | 18 |  | 18 |  |
| 19 | Hiva (0), Hongofulu (0), Tahataha (0) | 19 | Calf 31 (2) | 19 |  |
| 20 | Tahaua (0) | 20 | Uatolu (0), Fataha (1), Faua (1) | 20 |  |
| 21 |  | 21 | Calf 32 (1) | 21 |  |
| 22 | Tahatolu (1) | 22 | Fafa (0) | 22 |  |
| 23 | Tahaua (0), Tahatolu (1), Tahafa (0), Tahanima (0), Calf 3 (1), Calf 4 (0) | 23 |  | 23 |  |
| 24 | Tahaua (0), Tahaono (1), Uanoa (0) | 24 | Tahafa (0), Uanoa (1) | 24 |  |
| 25 | Tahafitu (1), Calf 5 (1) | 25 |  | 25 |  |
| 26 | Tahafitu (1) | 26 |  | 26 |  |
| 27 | Tahavalu (1), Calf 6 (0) | 27 | Fanima (1), Calf 33 (0) | 27 |  |
| 28 |  | 28 |  | 28 |  |
| 29 | Tahahiva (1), Uanoa (0) | 29 |  | 29 |  |
| 30 | Uataha (0), Calf 7 (1) | 30 |  | 30 |  |
| 31 | Hiva (0), Uaua (1), Calf 8 (0) |  |  | 31 |  |



02. UA

Spotted this mother and calf
on the way back in after
following several pairs of
whales near Submarine Rock.
Very, very skittish mom.
We only had one pass, enough
for me to get an ID photo, but
she took off at top speed, so
we did not pursue.
Young baby, some distinct
white patches on body and
pectoral fins. Mom has a
hooked dorsal fin. Calf's dorsal
fin similar shape.

When \& Where: 09 Aug ( 0 )


## 03. TOLU $\sigma^{\pi}$

We had four encounters with this mother/ calf pair. In the first two encounters, mom was shy and kept the calf close. The calf had a scar across its lower abdomen, perhaps from a rope, so this may have
contributed to the mom's demeanour. The third time, however, there was an escort. The escort's presence seemed to settle the mom. She let the calf play unattended, often at quite a distance, while she
stayed with the escort. There was no escort in the final encounter.

When \& Where: 11 Aug (0), 13
Aug (0), 18 Aug (1), 09 Sep (0)


## 04. FA

We found this mom and calf way out far, quite close to another mom and calf that we were not able to ID (Unknown calf \#2).

Mom and calf were very skittish, perhaps because the visibility was extremely poor. We tried getting into the water twice. The first time was unsuccessful.

The second time, the pair was swimming off, away from me. I swam as hard as I could to get parallel to them and be in range to take ID photos at the far end of my zoom lens.

I thought the pair would disappear, but the mom slowed down and turned straight toward me.

I stopped, and the female brought the calf right to me so I could get photos.

Once I finished taking photos, mom and calf took off again at high speed. It was almost as if she "presented" the calf, then left. I've experienced this type of behaviour on many occasions.

When \& Where: 14 Aug (0)


## 05. NIMA

Mom and baby were with two escorts when we found them. There appeared to be a main escort which was relatively larger than another trailing male.

Mom, calf and main escort were always close together, with the fourth whale lagging behind. From time to time, we saw eruptions of froth and bubbles, sometimes with whale parts mixed in.

We figured out that this happened when the smaller male got too close or tried to encroach on the main trio. We watched in the water one time as the larger male executed a quick 180-degree turn and chased the other male, which
did a rapid loop, like a stunt plane.

This took place in shallow water, so it was quite dramatic, and we were close enough to see the action at close quarters.

After following for an extended period and dropping in only a few times, we left these four far, far south of Manninita. Nima's mom has a prominent
 scratch/ wound at the base of the left side of her dorsal fin.

Overcast conditions. Visibility was awful, even far out to sea.

When \& Where: 17 Aug (2)


## 06. ONO

Large baby, but mother was highly cautious.

She was settled in the water, but would move every one to two breath cycles of the baby. The mother had a tendency to
change directions and move long distances.

When \& Where: 17 Aug (0)


## 07. FITU

This mother/ calf/ escort trio were moving at high speed, so we only had a few brief drops with them.

Note the unusual clover-like shape on the calf's dorsal surface, and also the semicircular wound on its left pectoral fin. Wounds might have been the result of attack
by false killer whales
(Pseudorca crassidens). Click here to read more about this possible explanation.

When \& Where: 17 Aug (1)


## 08. VALU

Mom and escort at first seemed to be sleeping at the bottom, but then changed behaviour, swimming constantly.

Mom was very shy/ skittish.
The baby was playful, breaching, tail slapping, etc.

When \& Where: 18 Aug (1)

Mom's dorsal fin

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Calf's dorsal fin
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## 09. HIVA 우

Takaji: First sighting of this pair was in North Bay. Didn't see any blows, but saw the baby floating at the surface. Both mom and baby were incredibly shy, with mom resting at depth, veering away when they surfaced.

Shawn: The second sighting of this mom/ calf was also in North Bay. Mom was resting with nose pointing up. Entered several times, calf eventually came over, mom came up with calf on third breath cycle. Calf swam away from mom at
depth. On last swim, mom disappeared while calf was at surface. Then calf bolted away.

When \& Where: 19 Aug (0),
31 Aug (0)


## 10. HONGOFULU

We found this pair near Luamoko in the morning. Visibility was horrible, and mom incredibly shy. She never allowed a boat or person near her.

She has a nice round white spot on her cheeks and a hooked dorsal fin. We came across her again in the late afternoon near Oto, with the same evasive behaviour.

When \& Where: 19 Aug (0)


## 11. TAHATAHA 우

Mom was quite relaxed, sitting in incredibly murky water, but when people were in the water, she slipped quietly away. She stayed in the same area for the entire day though. The baby was playful with the mom, but
showed no interest in
swimmers.
When \& Where: 19 Aug (0)


## 12. TAHAUA 우

A total of three encounters over five days with this mother and calf. In all three cases, there was no escort, and the calf was energetic and playful, with periods of sustained surface activity. Was able to
determine during the final encounter that the baby is female.

When \& Where: 20 Aug (0),
23 Aug (0), 24 Aug (0)

## 13. TAHATOLU $\sigma^{T}$

Two encounters with this mom, baby and escort. Mom is nearly all black, with easily recognisable fluke. She has a bump on the left side of her dorsal fin.

Calf was very small. Calf was playful at the surface, breaching a few times. Calf also mostly dark all over, and has a similar pattern on the ventral surface of its fluke.

The escort (same on both days) was laid back, but the trio moved continuously, stopping only a couple of times.

When \& Where: 22 Aug (1),
23 Aug (1)


## 14. TAHAFA $\sigma^{7}$

This calf was the undisputed star of the season. We had a total of nine encounters with this mom and calf over 33 days.

Despite suffering multiple injuries, possibly due to false killer whales, Tahafa matured into a healthy, playful young whale over this period.

This is the first mother/ calf that we've documented travelling the 40 km between Vava'u and Toku. (We also

First encounter with Tahafa, 23 Aug
 documented two more instances this season.)

In addition, we documented a fascinating long-term escort relationship with this mother/ calf pair, spanning at least 14 days.




## 14. TAHAFA $\sigma^{T}$ (CONT'D)

Given the calf's injuries, the frequency with which we encountered this baby, and the number of interesting behavioural observations associated with this calf, its mother, and the long-term escort, I wrote a lot about Tahafa on my blog. Please refer to these posts to read the full story:

- Initial encounter
- Second update
- Third update
- Fourth update (discussion of long-term escort)
- Fifth update (discussion of false killer whale theory to explain wounds)

When \& Where: 23 Aug (0), 01 Sep (1), 02 Sep (1), 03 Sep (1), 07 Sep (1), 09 Sep (1), 14 Sep (1), 16 Sep (0), 24 Sep (0)



## 15. TAHANIMA

Shawn/ John/ Marshall found
When \& Where: 23 Aug (0)
this calf just above Submarine Rock. Note the ventral surface of the fluke, which resembles the ventral surface of Tolu's (calf \#3) and mom's ventral
fluke.


## 16. TAHAONO

Came across this mother/ calf/ escort while following 201112 Tahaua up the outside coast of Hunga from south to north.

Another boat was heading south with mom, baby and escort. They couldn't get in with them, so they left them.

Only had one chance to photograph the whales when
they went to a relatively
shallow area. Escort
maintained some distance
from mom and baby.
When \& Where: 24 Aug (1)

The three whales dived deep and stayed down, so it was difficult to see/ photograph them.

## 17. TAHAFITU

Stumbled across this trio as we were approaching the Tapana/ Euakafa area. Winds were strong at 20+ knots. Saw two large blows, but didn't notice the baby until we were close.

The trio moved a lot, pinging back and forth without any apparent pattern, diving deep a lot, sometimes popping up quickly, sometimes disappearing for a long time and travelling far away.

We spent about three hours trying to get in, and only managed to see them twice. On the second drop, they were stationary, which gave an opportunity to get ID images. Water very murky. Mother has a distinctive hole in her fluke.

Figured out that Shawn/ John/ Marshall had seen this trio on 25 Aug, one day before I ID-ed them.

The escort with Tahafitu was also with 201118 Tahavalu the next day, in the same area. Both mothers seemed to be uncomfortable with the escort, which may explain the erratic swimming of both mother/ calf pairs. Click here to read a detailed write-up.

When \& Where: ID-ed on 26 Aug (1), previous sighting 25 Aug (1)



> Escort that was with Tahafitu on $25 / 26$ Aug and then Tahavalu on 27 Aug. Both mother/ calf pairs swam non-stop, and in an erratic manner, periaps due to this escort.
@ Tony Wu I www.tonywublog.com


## 18. TAHAVALU

Mother, calf, escort in the same general area as 20117 Tahafitu the previous day. Visibility was poor again, and the trio was on the move, never stopping, swimming in unpredictable patterns.

Of particular interest, the escort with Tahavalu was the same as the escort with Tahafitu. The mad-dash, erratic swimming behaviour of both juveniles may have been due to the escort.

We only managed three drops. On the last drop, mom turned around and brought the baby to me, ditching the escort temporarily.

When the escort realised the mother/ calf pair had eluded him, he turned around and swam at them at high speed, sending the mother/ calf running again.

When \& Where: 27 Aug (1)



## 19. TAHAHIVA

This mom/ calf/ escort originally spotted outside North Bay. The whales travelled for a long time, eventually stopping outside Hunga. The mom
appeared to like the escort, and the three whales rested close together, almost as if stacked on top of each other. They moved from the north of

Hunga to the south before we left them.

When \& Where: 29 Aug (1)

## 20. UANOA $\sigma^{T}$

We first ID-ed this calf on 29 August, near Mounu Island. Visibility was poor. We were able to approach, but the whale never stopped.

I received an email from Kristy Peacock later that day, with a photo of the calf breaching, from an encounter she had on 24 August, five days prior to our initial ID of the baby.

Our final encounter with Uanoa was on 24 September, again in poor visibility, with the mom and calf swimming non-stop at high speed, this time with an escort accompanying them.

Both mother and calf are easily recognisable, the adult by a prominent white patch on its body, and the calf by the missing tip of its left pectoral fin.

When \& Where: 24 Aug (0), 29 Aug (0), 24 Sep (1)



## 21. UATAHA ס

Mom and calf were outside Hunga, initially difficult to approach. Two separate whales then approached; mom and calf moved toward shallow areas. When we entered the water again, there was an escort with the pair-singing.

The whales were in really shallow water, quite settled. Baby tail-slapped and breached. On the final drop, the escort seemed to have disappeared, and the mom/ baby headed out to deep water.

ID-ed on 01 September. Initial sighting on 30 August by Shawn/ John/ Marshall.

When \& Where: 30 Aug (0), 01 Sep (1)


## 22. UAUA

Picked up this mother/ calf/ escort just outside the main entrance to the harbour. The whales were on the move, but not swimming too quickly. Both mother and calf easily recognisable by the unique white patterns on their bodies. The escort had a lot of scratches all over his body.

Note also the streaks along both the mother's and calf's dorsal surfaces, along the spine, between the dorsal fin and caudal area. (See 201130 Tolunoa; 201145 Fanima).

When \& Where: 31 Aug (1)



## 23. UATOLU 우

First encounter with Uatolu, mom and escort was at Toku Island on 02 September. Mom and baby seemed pretty settled, but the escort was anxious and kept them moving, perhaps because there were a lot of other whales around.

At one point, two other whales swam toward them, and we watched the escort execute a rapid, aggressive lunge to chase them off. The baby played and breached a lot. On one breach, she achieved about 50 cm clearance from the surface.

Second sighting of Uatolu was back in Vava'u by Douglas Seifert. There was no escort. Uatolu is the second mother/ calf pair we've documented at both Toku and Vava'u this season. The first was 201114 Tahafa. The third was 201142 Faua.

When \& Where: 02 Sep (1), 20
Sep (0)



## 24. UAFA 우

Mother, calf, escort at Toku Island, in the same area as 201123 Uatolu.

It was overcast, dark, with low visibility. We had one drop only, and the whales took off.
Photos aren't great, but mom is identifiable by the chunk missing from the tip of the left pectoral.

When \& Where: 02 Sep (1)


## 25. UANIMA

Mom and calf were moving for a while, then mom stopped deep. Had two drops, was only able to take photos on one, then the whales took off. Mom easily identifiable by piece missing from dorsal fin.

When \& Where: 02 Sep (0)



## 26. UAONO

Spotted mom/ baby/ escort just outside main entrance, near the bay past Tungasika. Their pace was slow and relaxed. We followed quietly for a while.

At one point, we saw mom and baby separate from the escort, then saw the escort breach several times. Ongo used to say that when an escort was rejected, it often breached.

We continued with mom/ baby, which seemed to settle, but then sped up again, rounded the corner toward White Patch, then headed north to sea. Only managed one pass in the water.

When \& Where: 03 Sep (1)


## 27. UAFITU

This is the first baby with allwhite pectoral fins that we've seen here.

Mom/ baby/ escort, swimming in circles, spending most of their time submerged so difficult to see. Only managed one good pass in the water.

There was also one more baby with all-white pectoral fins this season-201142 Faua.

When \& Where: 03 Sep (1)


Escort that was with Uafitu and mom



## 28. UAVALU

Moving slowly and relaxed, but constantly on the go. Dived as soon as approached. All three whales (mom, baby, escort) commenced breaching at one point. Visibility was horrible.

When \& Where: 03 Sep (1)


## 29. UAHIVA 우

Mother and calf, with no escort. It was overcast and rainy, with low visibility underwater. The pair only stopped a couple of times.

The calf is a female, quite big when we saw her, playful and inquisitive. Very likely would have played with us had mom allowed. Mom swam off as soon as she saw us, though came to check us out the first time we were in the water. Mom is nearly all black.

When \& Where: $05 \operatorname{Sep}(0)$


## 30. TOLUNOA 우

Mother, calf and two escorts in Hunga channel. Not moving too fast, not diving very deep. Visibility was bad.

One of the escorts was vocalising at one point while swimming (think it was probably the whiter one). The whiter escort eventually left.

This mom/ calf was first sighted and photographed on 04 August by Ben (guest at Mounu).

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Note the scrape-like wound along the spine of the calf, between dorsal fin and caudal area. (See Uaua, calf \#22; Fanima, calf \#45).

When \& Where: 04 Aug (0), 05 Sep (2)



## 31. TOLUTAHA 우

Four encounters with this mom and calf. In the first two encounters, when there were escorts present, mom and calf were not settled. In the latter two encounters, there were no escorts, and the mom/ baby were relaxed.

Both the mother and calf have a lot of white on their bodies.

When \& Where: 07 Sep (3), 13 Sep (1), 14 Sep (0), 15 Sep (0)


## 32. TOLUUA 우

Toluua (calf \#32) broke our previous record calf count of 31 babies, achieved in 2009.

I recognised mom immediately, due to her unique dorsal fin. She was the mother of calf \#13 in 2009, Luna. Luna was a girl; Toluua is a girl as well.

Of particular interest, mom was friendly and interacted with people in 2009, and she was exactly the same in this encounter. Both babies were curious about people in the water, playful, and relatively independent. Toward the end of our encounter, an escort joined.

Fortunately, he was laid back as well.

Click here to read more about this fascinating encounter.

When \& Where: 09 Sep (1)


## 33. TOLUTOLU

Mom, calf and two escorts at Toku. A third escort joined for a bit. While the escorts were around, it was impossible to get near the mom and baby in the water.

One escort left, and then another, leaving just mom/ baby with a single escort.

Then the mom slowed down and relaxed, allowing a couple of drops. An approaching storm prevented further interaction.

When \& Where: 10 Sep (3)


## 34. TOLUFA $\sigma^{T}$

Three encounters with this mom and calf.

The first was in an area of low visibility during rainy weather. Mom rested with head up, and allowed the baby to surface by himself to play. Baby didn't approach too closely though. When mom came up, she would head toward people, but veer off midwater, and settle not too far away. Didn't really seem to mind people, but wasn't overly friendly either.

Visibility was really bad again in second sighting. When mom dived, it was impossible to see her. Waited at the surface for her to come up, then swam over. Baby wasn't too friendly. Was able to determine that the calf is male.

Third sighting was by Douglas. Mom slept at 20+ metres, often unable to see her. Very skittish when she surfaced. Moved off quickly and would not let the calf play much.

When \& Where: 10 Sep (0), $15 \operatorname{Sep}(0), 16 \operatorname{Sep}(0)$



## 35. TOLUNIMA 우

Saw this mom/ calf pair making their way up the coast of Hunga at high speed. Tracked them for 3-4 breaths, and then lost them.

It's possible we got confused by other whales in the area, but
with flat seas, it was disappointing. Found them again about 30 minutes later, quite near where we lost them.

Mom rested below while calf came up to breathe and play. Visibility low, so it was difficult
to find the whales between breath cycles. Followed them way out to sea, west from White Patch.

When \& Where: 12 Sep (0)


## 36. TOLUONO ${ }^{x}$

Late in the afternoon, we had two drops with this mom/ calf. They were on the move, but fortunately, the mom stopped to rest on the first drop, which gave us time to take a good look and get photos of the baby, which came up to play.

Of interest, the white patterns around the mother's eyes are not symmetric. There is more white on the right side than on the left side.

When \& Where: 12 Sep (0)



## 37. TOLUFITU

Only had one chance to take photos. Mom and calf were on the move continuously. Mom breached once.

When \& Where: 13 Sep (0)


## 38. TOLUVALU

Mom and calf were on the move continuously. Relatively young baby that breached a lot.

When \& Where: 14 Sep (0)


## 39. TOLUHIVA 우

Mom, calf and escort at Toku Island, all very relaxed, moving 50 metres or so each breath cycle. The adults allowed the calf to swim around and play by itself. At times, the baby nuzzled the escort instead of
the mom. Both mom and calf have whitish pectorals.

When \& Where: 16 Sep (1)


## 40. FANOA $\sigma^{\top}$

Mom, calf and escort at Toku Island. Escort breached and face-flopped several times as the trio approached the boat.

Mom has a split dorsal, the first one that I saw this season. The trio was shy underwater, so only managed one brief pass.

When \& Where: 16 Sep (1)



## 41. FATAHA

At Toku Island, only had one brief drop with mother, calf, escort. They moved off at high speed.

When \& Where: 20 Sep (1)


## 42. FAUA $\sigma^{7}$

Faua is the second baby with all-white pectoral fins this season. (See 201127 Uafitu). Faua's mother also has white pectoral fins. The calf has a small split in its dorsal fin.

Our encounter was at Toku Island. Allan and Ma'ata from Mounu photographed these whales again on 07 October in Vava'u. From Allan: "Picked her up in the waves in the shallows at Fatumanga and she headed due south a mile. Very friendly and lazy, not interested in us. Escort with her. Calf very playful." The escort was the same as the one on 20 September.

This is our third documentation of mother/ calf pairs in both Vava'u and Toku (See 201114 Tahafa and 201123 Uatolu). It is the second long-term association between escort and mother/ calf pair (See 201114 Tahafa).

When \& Where: 20 Sep (1), 07 Oct (1)



## 43. FATOLU 우

Douglas: "Mom was snoozing just
above reef at about 15-20 metres.
Baby could not stay down long.
Would come up, breathe, dive.
Mom moved off then would hang at $15-20 \mathrm{~m}$. Would come up with calf and then move off. Visibility was awful so did not pursue after a few times."

When \& Where: 13 Sep (0)


## 44. FAFA 우

This calf was extremely playful, breaching a lot. Mom, on the other hand, was skittish, perhaps because the calf had sustained injury, similar to the markings on 201114 Tahafa.

Fafa had injuries on both sides of her body, including what appears to be a perfect impression left behind by a mouth on the left side of her face, and also a big chunk missing from the right side of her fluke.

Underwater photos of her entering the water after a breach show the face wound and body wounds. Topside photos show the fluke wound and body wounds.

The injuries didn't seem to affect the baby, which played and played, quite often going a distance from mom. Mom finally settled a bit after about two hours, allowing a few good encounters.

Click here to read more about this calf's injuries, and some speculation about the possibility of false killer whales being responsible for these wounds.

When \& Where: 22 Sep (0)


## 45. FANIMA 우

Fanima was a big calf, perhaps half her mother's length.

On my first drop into the water, I saw an escort appear suddenly beneath the resting mom. The whales took off for a few minutes, but then settled down soon thereafter, so it seems that mom accepted the escort readily.

Mom let the baby frolic alone at the surface while she rested below. The baby was extremely playful and inquisitive.

Both mom and baby have scars on their dorsal surfaces, posterior to the dorsal fin, on both sides. The scars appear like scrape marks, but up close, there are many individual scratches.

Mom's scratches/ wounds seemed fresh, as there was blood visible on both sides of her body.

I have seen these types of injuries on many babies, some mothers. They seem to be relatively common. See 201122 Uaua and 201130 Tolunoa

When \& Where: 27 Sep (1)

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## 46. FAONO

Originally recorded as Unknown calf \#10 on 01 September, re-sighted on 06 September.

Looks similar to 201108 Valu, but the mothers' dorsal fins are different. Valu's mom has a blunt dorsal; Faono's mom has a more standard dorsal.

Both mothers have strong leading white edges on their pectoral fins. Valu's mom has a rounded tip on her pectoral fin; Faono's mom has a sharp edge on her pectoral.

There is some resemblance to 201116 Tahaono, but again, the mothers' dorsal fins differ.

Same elusive behaviour in both encounters, even though there was no escort the second time.

When \& Where: 01 Sep
(1), 06 Sep (0)




## 47. FAFITU

Originally recorded as Unknown calf \#27 on 16 September. Mother, calf and three escorts at Toku Island.

The escorts kept the mom and calf moving at high speed, and herded them away from us.

Only managed one brief glimpse in the water.

When \& Where: 16 Sep (3)


## 48. FAVALU

From Allan: The mother and calf were "with an escort right off the two rocks on the northern side of Mounu...Baby was furiously tail-slapping and then mum breached...The whales eventually moved between Mounu and Ovaka, and the escort disappeared. We had two swims of about twenty minutes each."

Given the small size of the calf and the date of this encounter, it is clear that this is not one of
the mother/ calf pairs ID-ed earlier in the season.

This also confirms anecdotal reports that female humpbacks visiting Tonga can and do give birth relatively late in the season.

When \& Where: 13 Oct (1)

