## **Central Queensland Coal Project**Appendix 9h - Broad Sound -

**Shorebird Survey Count Data** 

**Supplementary Environmental Impact Statement** 

## Migratory shorebird counts in Broad Sound 2008 / 2009 – raw data

by Wetlands International and volunteers for Fitzroy Basin Association.

Survey leader and contact: Roger Jaensch

Table 1 2008 - 2009 Broad Sound migratory bird counts - raw data (source: Jaensch 2009) (bold numbers indicate nationally important numbers i.e. 0.1% of flyway estimate as provided in Hansen et.al 2016)

| Roost name      | Lat     | Long     | Date    | High tide<br>time | Tide<br>height (m) | Count period | Species             | Number | Comments                                |
|-----------------|---------|----------|---------|-------------------|--------------------|--------------|---------------------|--------|---|
| September 2008  |         |          |         |                   |                    |              |                     |        |   |
| Charon Point    | 22.4008 | 149.8222 | 14/9/08 | 11:00             | 5.35               | 09:00-11:30  | Bar-tailed Godwit   | 8      |   |
|                 |         |          |         |                   |                    |              | Beach Stone-curlew  | 1      | at roost on previous night's high tide; |
|                 |         |          |         |                   |                    |              |                     |        | on Charon Point beach by day            |
|                 |         |          |         |                   |                    |              | Eastern Curlew      | 92     | observers on hill at shore reported     |
|                 |         |          |         |                   |                    |              |                     |        | curlews flying in (late) from direction |
|                 |         |          |         |                   |                    |              |                     |        | of across Broad Sound to east.          |
|                 |         |          |         |                   |                    |              | Grey-tailed Tattler | 1      | some roosting in outer mangroves        |
|                 |         |          |         |                   |                    |              | sandplover sp.      | 1      | flushed only, poor view                 |
|                 |         |          |         |                   |                    |              | Whimbrel            | 1      | others probably roosting in mangroves   |
| Bar Plain Beach | 22.3018 | 149.6233 | 15/9/08 | 11:30             | 5.55               | 09:15-12:30  | Bar-tailed Godwit   | 70     | last 40 flew in at 1000                 |
|                 |         |          | 7,7,2   |                   |                    |              | Eastern Curlew      | 68     | 37 flew in between 1030 and 1055,       |
|                 |         |          |         |                   |                    |              |                     |        | well after all other birds had arrived. |
|                 |         |          |         |                   |                    |              |                     |        | From SE or E                            |
|                 |         |          |         |                   |                    |              | Great Knot          | 50     |   |
|                 |         |          |         |                   |                    |              | Grey Plover         | 3      | black 'armpits'                         |
|                 |         |          |         |                   |                    |              | Red Knot            | 350    | traces of red on many bellies; most     |
|                 |         |          |         |                   |                    |              |                     |        | birds arrived at roost at 0925          |
|                 |         |          |         |                   |                    |              | Red-necked Stint    | 370    | roosting inconspicuously in mangrove    |
|                 |         |          |         |                   |                    |              |                     |        | leaf strand at last night's HWM         |
|                 |         |          |         |                   |                    |              | sandplover sp.      | 10     | identity uncertain, seen briefly        |
|                 |         |          |         |                   |                    |              | Whimbrel            | 4      |   |
|                 |         |          |         |                   |                    |              | Gull-billed Tern    | 48     |   |
|                 |         |          |         |                   |                    |              | Caspian Tern        | 3      |   |
| Oyster Creek    | 22.2334 | 149.5702 | 16/9/08 | 12:00             | 5.69               | 11:20-11:50  | Bar-tailed Godwit   | 2      |   |
|                 |         |          |         |                   |                    |              | Curlew Sandpiper    | 120    |   |
|                 |         |          |         |                   |                    |              | Eastern Curlew      | 17     |   |
|                 |         |          |         |                   |                    |              | Red-necked Stint    | 370    |   |

| Roost name                              | Lat     | Long     | Date    | High tide<br>time | Tide<br>height (m) | Count period | Species                   | Number | Comments  |
|---|---------|----------|---------|-------------------|--------------------|--------------|---------------------------|--------|---|
|   |         |          |         |                   |                    |              | Terek Sandpiper           | 10     |   |
|   |         |          |         |                   |                    |              | Whimbrel                  | 2      |   |
| St Lawrence Creek north-shore saltmarsh | 22.2958 | 149.5598 | 16/9/08 | 12:00             | 5.69               | 11:00-11:05  | Bar-tailed Godwit         | 1      |   |
|   |         |          |         |                   |                    |              | Eastern Curlew            | 2      |   |
|   |         |          |         |                   |                    |              | Great Knot                | 1      |   |
|   |         |          |         |                   |                    |              | Whimbrel                  | 8      |   |
| Hoogly Point                            | 22.3529 | 149.6902 | 17/9/08 | 12:45             | 5.73               | 10:05-13:00  | Bar-tailed Godwit         | 80     | in flock with knots                                       |
|   |         |          |         |                   |                    |              | Beach Stone-curlew        | 2      |   |
|   |         |          |         |                   |                    |              | Common Greenshank         | 14     |   |
|   |         |          |         |                   |                    |              | Curlew Sandpiper          | 4      |   |
|   |         |          |         |                   |                    |              | Eastern Curlew            | 50     |   |
|   |         |          |         |                   |                    |              | Great Knot                | 30     | in flock with knots and godwits                           |
|   |         |          |         |                   |                    |              | Grey Plover               | 1      | -   |
|   |         |          |         |                   |                    |              | Grey-tailed Tattler       | 15     | in two outer Avicennia mangroves, partly hidden in tree   |
|   |         |          |         |                   |                    |              | Red Knot                  | 77     | in flock with knots and godwits                           |
|   |         |          |         |                   |                    |              | Red-necked Stint          | 170    | mainly on strand line along beach to east                 |
|   |         |          |         |                   |                    |              | Sharp-tailed<br>Sandpiper | 23     | in damp samphire (wetted on higher night tide last night) |
|   |         |          |         |                   |                    |              | Terek Sandpiper           | 10     | in two outer Avicennia mangroves, partly hidden in tree   |
|   |         |          |         |                   |                    |              | Whimbrel                  | 15     | roosting in mangroves                                     |
|   |         |          |         |                   |                    |              | Gull-billed Tern          | 20     |   |
| November 2008                           |         |          |         |                   |                    |              | •                         |        |   |
| Oyster Creek                            | 22.2334 | 149.5702 | 13/9/08 | 11:30             | 6.5                | 10:30-11:15  | Bar-tailed Godwit         | 5      |   |
|   |         |          |         |                   |                    |              | Beach Stone-curlew        | 2      |   |
|   |         |          |         |                   |                    |              | Curlew Sandpiper          | 2      |   |
|   |         |          |         |                   |                    |              | Eastern Curlew            | 25     |   |
|   |         |          |         |                   |                    |              | Greater Sand Plover       | 100    |   |
|   |         |          |         |                   |                    |              | Lesser Sand Plover        | 1      |   |
|   |         |          |         |                   |                    |              | Red-necked Stint          | 375    |   |
|   |         |          |         |                   |                    |              | Sharp-tailed              | 3      |   |
|   |         |          |         |                   |                    |              | Sandpiper                 |        |   |
|   |         |          |         |                   |                    |              | Whimbrel                  | 2      |   |

| Roost name                              | Lat     | Long     | Date    | High tide<br>time | Tide<br>height (m) | Count period | Species             | Number | Comments   |
|---|---------|----------|---------|-------------------|--------------------|--------------|---------------------|--------|--|
| St Lawrence Creek north-shore saltmarsh | 22.2958 | 149.5598 | 13/9/08 | 11:30             | 6.5                | 10:00-10:05  | Bar-tailed Godwit   | 239    |  |
|   |         |          |         |                   |                    |              | Eastern Curlew      | 4      |  |
|   |         |          |         |                   |                    |              | Great Knot          | 5      |  |
| Outer Mangrove of Bar<br>Plain          | 22.3180 | 149.6422 | 13/9/08 | 11:30             | 6.5                | 11:40-11:55  | Common Greenshank   | 5      |  |
|   |         |          |         |                   |                    |              | Grey-tailed Tattler | 39     |  |
|   |         |          |         |                   |                    |              | Terek Sandpiper     | 21     |  |
|   |         |          |         |                   |                    |              | Whimbrel            | 10     |  |
|   |         |          |         |                   |                    |              | Gull-billed Tern    | 5      |  |
| Hoogly Point                            | 22.3529 | 149.6902 | 14/9/08 | 1215              | 6.5                | 0845-1145    | Bar-tailed Godwit   | 149    |  |
|   |         |          |         |                   |                    |              | Beach Stone-curlew  | 2      |  |
|   |         |          |         |                   |                    |              | Common Greenshank   | 5      |  |
|   |         |          |         |                   |                    |              | Eastern Curlew      | 83     |  |
|   |         |          |         |                   |                    |              | Great Knot          | 35     |  |
|   |         |          |         |                   |                    |              | Greater Sand Plover | 2      |  |
|   |         |          |         |                   |                    |              | Grey Plover         | 4      |  |
|   |         |          |         |                   |                    |              | Red Knot            | 5      |  |
|   |         |          |         |                   |                    |              | Red-necked Stint    | 802    |  |
|   |         |          |         |                   |                    |              | Sharp-tailed        | 95     |  |
|   |         |          |         |                   |                    |              | Sandpiper           |        |  |
|   |         |          |         |                   |                    |              | Whimbrel            | 56     |  |
|   |         |          |         |                   |                    |              | Gull-billed Tern    | 75     |  |
|   |         |          |         |                   |                    |              | Caspian Tern        | 2      |  |
| February 2009                           |         |          |         |                   |                    |              | <u> </u>            | 1      | 1  |
| St Lawrence Creek north-shore saltmarsh | 22.2958 | 149.5598 | 07/2/09 | 10:10             | 6.4                | 08:17-08:30  | Bar-tailed Godwit   | 155    |  |
|   |         |          |         |                   |                    |              | Eastern Curlew      | 6      |  |
|   |         |          |         |                   |                    |              | Great Knot          | 30     |  |
|   |         |          |         |                   |                    |              | Terek Sandpiper     | 25     |  |
|   |         |          |         |                   |                    |              | Whimbrel            | 5      |  |
| Bar Plain Beach                         | 22.3018 | 149.6233 | 07/2/09 | 10:10             | 6.4                | 08:55-09:45  | Bar-tailed Godwit   | 43     | 20 of these birds left towards Red<br>Bluff before high tide |
|   |         |          |         |                   |                    |              | Eastern Curlew      | 13     | 16 other birds at minor sites upriver on the south shore     |

| Roost name   | Lat     | Long     | Date    | High tide<br>time | Tide<br>height (m) | Count period | Species            | Number | Comments  |
|--------------|---------|----------|---------|-------------------|--------------------|--------------|--------------------|--------|---|
|              |         |          |         |                   |                    |              | Great Knot         | 340    | 200 of these birds left towards Red<br>Bluff before high tide   |
|              |         |          |         |                   |                    |              | Lesser Sand Plover | 240    | scanned carefully at reasonable distance  |
|              |         |          |         |                   |                    |              | Red-necked Stint   | 110    |   |
|              |         |          |         |                   |                    |              | Whimbrel           | 0      | 9 other birds at minor sites upriver on the south shore   |
| Charon Point | 22.4008 | 149.8222 | 08/2/09 | 1050              | 6.7                | 1045-1345    | Bar-tailed Godwit  | 70     |   |
|              |         |          |         |                   |                    |              | Eastern Curlew     | 25     |   |
|              |         |          |         |                   |                    |              | Great Knot         | 2,300  | two main mobs on saltflat; did not leave till after 1300  |
|              |         |          |         |                   |                    |              | large shorebirds   | 100    | dropped in to an unseen roost site in<br>far south of mangroves associated<br>with this saltflat; possibly Whimbrels<br>and/or godwits                                      |
|              |         |          |         |                   |                    |              | Lesser Sand Plover | 60     | scanned carefully at reasonable distance  |
|              |         |          |         |                   |                    |              | Red Knot           | 11     | seen at close range with scope, inside<br>Great Knot mobs   |
|              |         |          |         |                   |                    |              | Whimbrel           | 4      |   |
| March 2009   |         |          |         |                   |                    |              |                    | 1      | 1   |
| Charon Point | 22.4008 | 149.8222 | 22/3/09 | 09:20             | 5.4                | 08:20-09:30  | Bar-tailed Godwit  | 48     |   |
|              |         |          |         |                   |                    |              | Beach Stone-curlew | 1      |   |
|              |         |          |         |                   |                    |              | Eastern Curlew     | 30     |   |
|              |         |          |         |                   |                    |              | Great Knot         | 2,200  | possibly around 2500: several large<br>flocks wheeling in flight low overhead<br>and over the sea; arrived about 10<br>minutes after high tide but did not<br>land at roost |
|              |         |          |         |                   |                    |              | Whimbrel           | 10     |   |
| Hoogly Point | 22.3529 | 149.6902 | 23/3/09 | 10:00             | 5.7                | 08:15-10:30  | Eastern Curlew     | 26     |   |
|              |         |          |         |                   |                    |              | Grey Plover        | 2      |   |
|              |         |          |         |                   |                    |              | Lesser Sand Plover | 70     |   |
|              |         |          |         |                   |                    |              | Red-necked Stint   | 60     |   |
|              |         |          |         |                   |                    |              | Whimbrel           | 21     |   |
|              |         |          |         |                   |                    |              | Caspian Tern       | 1      |   |

## Migratory shorebird counts in Broad Sound 2010 / 2017 – raw data

by volunteers for Birdlife Capricornia.

Table 2 2010 - 2017 Broad Sound migratory bird counts - raw data (source: Birdlife Capricornia 2017) (bold numbers indicate nationally important numbers i.e. 0.1% of flyway estimate as provided in Hansen et.al 2016)

| Roost name          | Lat     | Long     | Date      | High tide<br>time | Tide height<br>(m) | Count period | Species                | Number |
|---------------------|---------|----------|-----------|-------------------|--------------------|--------------|------------------------|--------|
| Charon Point        | 22.4008 | 149.8222 | 4/9/2010  | 8:15              | 4.52               | 07:00-09:30  | Bar-tailed Godwit      | 6      |
|                     |         |          |           |                   |                    |              | Beach Stone-curlew     | 2      |
|                     |         |          |           |                   |                    |              | Eastern Curlew         | 50     |
|                     |         |          |           |                   |                    |              | Grey-tailed Tattler    | 60     |
|                     |         |          |           |                   |                    |              | Whimbrel               | 15     |
| Charon Point        | 22.4008 | 149.8222 | 24/9/2011 | 8:15              | 4.52               | 07:45-09:30  | Eastern Curlew         | 60     |
|                     |         |          |           |                   |                    |              | Whimbrel               | 10     |
|                     |         |          |           |                   |                    |              | Terek Sandpiper        | 2      |
| <b>Charon Point</b> | 22.4008 | 149.8222 | 17/9/2012 | 11:03             | 5.86               | 09:30-11:30  | Eastern Curlew         | 15     |
|                     |         |          |           |                   |                    |              | Whimbrel               | 4      |
|                     |         |          |           |                   |                    |              | Lesser Sand Plover     | 8      |
| Hoogly Point        | 22.3578 | 149.6883 | 6/10/2013 | 12:40             | 5.89               | 10:00-13:00  | Bar-tailed Godwit      | 130    |
|                     |         |          |           |                   |                    |              | Eastern Curlew         | 505*   |
|                     |         |          |           |                   |                    |              | Great Knot             | 40     |
|                     |         |          |           |                   |                    |              | Whimbrel               | 35     |
|                     |         |          |           |                   |                    |              | Red-necked Stint       | 290    |
|                     |         |          |           |                   |                    |              | Greater Sand Plover    | 50     |
|                     |         |          |           |                   |                    |              | Lesser Sand Plover     | 20     |
|                     |         |          |           |                   |                    |              | Grey Plover            | 3      |
|                     |         |          |           |                   |                    |              | Sharp-tailed Sandpiper | 1      |
|                     |         |          |           |                   |                    |              | Grey-tailed Tattler    | 1      |
| Bar Plains Beach    | 22.3018 | 149.6261 | 6/10/2013 | 12:15             | 5.94               | 10:30-12:00  | Bar-tailed Godwit      | 8      |
|                     |         |          |           |                   |                    |              | Whimbrel               | 1      |
|                     |         |          |           |                   |                    |              | Eastern Curlew         | 94     |
|                     |         |          |           |                   |                    |              | Great Knot             | 4      |
|                     |         |          |           |                   |                    |              | Red Knot               | 41     |
|                     |         |          |           |                   |                    |              | Red-necked Stint       | 280    |
|                     |         |          |           |                   |                    |              | Sharp-tailed Sandpiper | 75     |
| Hoogly Point        | 22.3578 | 149.6883 | 6/10/2014 | 10:02             | 5.89               | 09:00-11:00  | Bar-tailed Godwit      | 25     |
|                     |         |          |           |                   |                    |              | Black-tailed Godwit    | 1      |
|                     |         |          |           |                   |                    |              | Eastern Curlew         | 251    |

| Roost name       | Lat     | Long     | Date       | High tide<br>time | Tide height<br>(m) | Count period | Species             | Number |
|------------------|---------|----------|------------|-------------------|--------------------|--------------|---------------------|--------|
|                  |         |          |            |                   |                    |              | Great Knot          | 15     |
|                  |         |          |            |                   |                    |              | Whimbrel            | 45     |
|                  |         |          |            |                   |                    |              | Red-necked Stint    | 170    |
|                  |         |          |            |                   |                    |              | Greater Sand Plover | 28     |
|                  |         |          |            |                   |                    |              | Grey Plover         | 7      |
| Bar Plains Beach | 22.3018 | 149.6261 | 28/10/2015 | 11:52             | 7.0                | 13:00-14:00  | Bar-tailed Godwit   | 48     |
|                  |         |          |            |                   |                    |              | Great Knot          | 464    |
|                  |         |          |            |                   |                    |              | Red-necked Stint    | 5      |
|                  |         |          |            |                   |                    |              | Greater Sand Plover | 85     |
|                  |         |          |            |                   |                    |              | Lesser Sand Plover  | 20     |
| Hoogly Point     | 22.3578 | 149.6883 | 17/9/2017  | 09:07             | 7.14               | 08:00-10:00  | Bar-tailed Godwit   | 40     |
| -                |         |          |            |                   |                    |              | Eastern Curlew      | 231    |
|                  |         |          |            |                   |                    |              | Great Knot          | 15     |
|                  |         |          |            |                   |                    |              | Whimbrel            | 28     |
|                  |         |          |            |                   |                    |              | Red-necked Stint    | 155    |
|                  |         |          |            |                   |                    |              | Greater Sand Plover | 12     |
|                  |         |          |            |                   |                    |              | Grey-tailed Tattler | 12     |
| Bar Plains Beach | 22.3018 | 149.6261 | 28/10/2015 | 11:52             | 7.0                | 13:00-14:00  | Bar-tailed Godwit   | 11     |
|                  |         |          |            |                   |                    |              | Eastern Curlew      | 62     |
|                  |         |          |            |                   |                    |              | Great Knot          | 2      |
|                  |         |          |            |                   |                    |              | Red-necked Stint    | 38     |
|                  |         |          |            |                   |                    |              | Whimbrel            | 22     |

<sup>\*</sup>Denotes internationally important shorebird numbers i.e. 1% of flyway estimate as provided in Hansen et.al 2016.