

NDB LIST CLE No. 196

1-Way Flight from your Location

24 - 27 July 2015, midday-midday local time

**COMBINED RESULTS
REST OF THE WORLD**

Listeners were invited to "make an imaginary 'fun flight' from your home, navigating by travelling from NDB to NDB to finally reach a distant one. Each of the chosen NDBs to be logged in turn (from home!) in the correct time sequence. That will get harder as you travel further away."

Pilots:

AUS TA **et** Edgar Twining, Moonah
 HWA **mx** Mike Tuggle, Kaneohe, Hawaii
 USA CA **dn** Don Tomkinson, Upland
 USA MI **jb** Joe Miller, Troy
 USA MO **dp** Dick Palmer, Foristell
 USA NH **jc** John Collins, Charlestown
 USA TN **g4** George Muha, while at Waverly
 USA TX **du** Douglas Springfield, New Chapel Hill, NE Texas
 USA UT **mu** Mark Moulding, Ogden, Northern UT
 USA WA **so** Steven O'Kelley, The Dungeon, Nr Seattle

For full details, please see the individual reporters' flight logs, as previously posted by them to the List.

If you spot an omission or problem in your own details below please let me know (ndbcle'at'gmail.com - replace the 'at' by an @ symbol)

Flight Statistics:

| To encourage realistic flights, pilots were asked to try to get a high value for all four of these: | AUS TA et | HWA mx | USA CA dn | USA MI jb | USA MO dp | USA NH jc | USA TN g4 | USA TX du | USA UT mu | USA WA so | AVERAGE |
|---|--------------|-----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------|
| Start-Finish direct miles: | 2,249 | 4,339 | 590 | 159 | 255 | 2,024 | 188 | 458 | 1,239 | 1,347 | 1,285 |
| Total Flight distance miles: | 2,836 | 5,587 | 649 | 160 | 255 | 2,952 | 974 | 460 | 1,256 | 1,474 | 1,660 |
| Directness (%): | 79 | 78 | 91 | 99 | 100 | 69 | 19 | 100 | 99 | 91 | 83 |
| No. of Legs (NDBs): | 30 | 5 | 4 | 3 | 4 | 12 | 8 | 3 | 6 | 9 | 8 |
| Shortest leg (miles): | 10 | 521 | 138 | 53 | 34 | 47 | 40 | 123 | 65 | 82 | 111 |
| Longest leg (miles): | 490 | 2455 | 174 | 54 | 106 | 1073 | 217 | 193 | 378 | 246 | 539 |
| Legginess (%): | 2 | 21 | 79 | 98 | 32 | 4 | 18 | 64 | 17 | 33 | 37 |

'Directness' is the start-to-finish distance direct, divided by the total flight distance as a %. A low figure means a 'zig-zaggy' flight.

'Legginess' is the shortest leg distance divided by the longest leg distance as a %.
It measures how well the pilots were able to avoid any very short legs and any very long ones.

The yellow fill colours show higher values, the blue ones show lower values (my rather arbitrary choices!).
Some listeners had major benefits or disadvantages because of their location relative to suitable NDBs.

Individual Flights Full Details:

(To find a particular flight, select column F and 'find' the pilot's name)

AUS TA et Edgar Twining, Moonah:

| dd | UTC | kHz | Ident | Location | Cou. | Lat. | Long. | miles LEG | direct miles from start | Leg No. |
|----|-------|-----|-------|-----------------|------|-------|--------|--------------|----------------------------------|---------|
| | | | HOME: | Moonah | TA | S4251 | E14717 | 0 | 0 | 0 |
| 24 | 03:13 | 362 | HB | BARILLA BAY. | TA | S4248 | E14728 | 10 | 10 | 1 |
| 24 | 03:14 | 230 | NIE | NILE. | TA | S4139 | E14718 | 80 | 83 | 2 |
| 24 | 03:14 | 392 | STH | ST HELENS. | TA | S4120 | E14816 | 55 | 116 | 3 |
| 24 | 03:14 | 296 | FLI | WHITEMARK. | TA | S4006 | E14801 | 86 | 194 | 4 |
| 24 | 03:15 | 486 | LTV | LATROBE VALLEY. | VI | S3812 | E14828 | 134 | 327 | 5 |
| 24 | 03:15 | 350 | ESL | EAST SALE. | VI | S3806 | E14709 | 72 | 328 | 6 |
| 24 | 03:16 | 212 | BNS | BAIRNSDALE. | VI | S3752 | E14734 | 28 | 345 | 7 |
| 24 | 03:16 | 338 | MCO | MALLACOOTA. | VI | S3735 | E14943 | 119 | 386 | 8 |
| 24 | 03:17 | 395 | MER | MERIMBULA. | NW | S3654 | E14954 | 48 | 434 | 9 |
| 24 | 03:18 | 293 | COM | COOMA. | NW | S3621 | E14857 | 65 | 458 | 10 |
| 24 | 06:51 | 287 | WLE | WILLIAMSDALE. | NW | S3533 | E14911 | 57 | 515 | 11 |
| 24 | 06:52 | 359 | NWA | NOWRA. | NW | S3457 | E15032 | 87 | 573 | 12 |
| 24 | 07:30 | 239 | WOL | WOLLONGONG. | NW | S3433 | E15047 | 31 | 604 | 13 |
| 24 | 07:34 | 428 | GLF | GLENFIELD. | NW | S3400 | E15058 | 39 | 643 | 14 |
| 24 | 07:35 | 347 | RIC | RICHMOND. | NW | S3335 | E15047 | 31 | 668 | 15 |
| 24 | 07:39 | 404 | MQD | MT MCQUOID. | NW | S3307 | E15108 | 38 | 705 | 16 |
| 24 | 07:39 | 290 | SGT | SINGLETON. | NW | S3233 | E15116 | 40 | 744 | 17 |
| 24 | 07:40 | 371 | TRE | TAREE. | NW | S3153 | E15231 | 86 | 810 | 18 |
| 24 | 07:47 | 395 | PMQ | PORT MACQUARIE. | NW | S3126 | E15252 | 37 | 846 | 19 |
| 24 | 10:12 | 230 | KMP | KEMPSEY. | NW | S3103 | E15247 | 27 | 870 | 20 |
| 24 | 10:12 | 311 | CFS | COFFS HARBOUR. | NW | S3019 | E15307 | 54 | 924 | 21 |
| 24 | 10:31 | 278 | CG | COOLANGATTA. | QD | S2809 | E15330 | 152 | 1,074 | 22 |
| 24 | 10:32 | 359 | AMB | AMBERLEY. | QD | S2738 | E15243 | 60 | 1,095 | 23 |
| 24 | 10:34 | 380 | SU | SUNSHINE COAST. | QD | S2636 | E15306 | 75 | 1,170 | 24 |
| 24 | 10:37 | 257 | RK | ROCKHAMPTON. | QD | S2322 | E15029 | 277 | 1,359 | 25 |
| 24 | 10:37 | 308 | MK | MACKAY. | QD | S2110 | E14911 | 173 | 1,503 | 26 |
| 24 | 10:46 | 245 | PN | PROSERPINE. | QD | S2029 | E14834 | 62 | 1,548 | 27 |

| | |
|---|--------------|
| To encourage realistic flights, pilots were asked to try to get a high value for all four of these: | AUS TA et |
| Start-Finish direct miles: | 2,249 |
| Total Flight distance miles: | 2,836 |
| Directness (%): | 79 |
| No. of Legs (NDBs): | 30 |
| Shortest leg (miles): | 10 |
| Longest leg (miles): | 490 |
| Legginess (%): | 2 |

| | | | | | | | | | | | |
|--------|-------|-----|-----|--------------|----|-------|--------|--|-------|-------|----|
| 24 | 10:47 | 276 | TVL | TOWNSVILLE. | QD | S1914 | E14646 | | 145 | 1,633 | 28 |
| 24 | 10:58 | 364 | CS | CAIRNS. | QD | S1651 | E14544 | | 178 | 1,799 | 29 |
| 24 | 11:00 | 356 | HID | HORN ISLAND. | QD | S1036 | E14218 | | 490 | 2,249 | 30 |
| Total: | | | | | | | | | 2,836 | | |

HWA mx Mike Tuggle, Kaneohe, Hawaii:

| dd | UTC | kHz | Ident | Location | Cou. | Lat. | Long. | | miles LEG | direct miles from start | Leg No. |
|--------|-------|-----|-------|-------------------|------|-------|--------|--|--------------|-------------------------------|---------|
| | | | HOME: | Kaneohe | HWA | N2125 | W15749 | | 0 | 0 | 0 |
| 25 | 00:00 | 359 | NDJ | Bucholz Kwajalein | MHL | N0843 | E16743 | | 2,455 | 2,455 | 1 |
| 26 | 00:00 | 355 | NI | Nauru | NRU | S0033 | E16655 | | 643 | 2,823 | 2 |
| 26 | 00:00 | 412 | SON | Santo Pekoa | VUT | S1530 | E16713 | | 1,034 | 3,483 | 3 |
| 26 | 00:00 | 260 | NF | Anson's Point | NFK | S2900 | E16755 | | 934 | 4,166 | 4 |
| 26 | 00:00 | 238 | KT | Kaitaia | NZL | S3502 | E17315 | | 521 | 4,339 | 5 |
| Total: | | | | | | | | | 5,587 | | |

| | |
|---|--------------|
| To encourage realistic flights, pilots were asked to try to get a high value for all four of these: | HWA mx |
| Start-Finish direct miles: | 4,339 |
| Total Flight distance miles: | 5,587 |
| Directness (%): | 78 |
| No. of Legs (NDBs): | 5 |
| Shortest leg (miles): | 521 |
| Longest leg (miles): | 2455 |
| Legginess (%): | 21 |

USA CA dn Don Tomkinson, Upland:

| dd | UTC | kHz | Ident | Location | Cou. | Lat. | Long. | | miles LEG | direct miles from start | Leg No. |
|--------|-----|-----|-------|-----------------------|------|-------|--------|--|--------------|-------------------------------|---------|
| | | | HOME: | Upland | CA | N3406 | W11738 | | 0 | 0 | 0 |
| 26 | 536 | 205 | COR | Sayler Farms Corcoran | CA | N3604 | W11932 | | 173 | 173 | 1 |
| 26 | 539 | 374 | LV | Livermore Reiga | CA | N3742 | W12141 | | 164 | 337 | 2 |
| 26 | 744 | 371 | UK | Laughlin | CA | N3917 | W12314 | | 138 | 474 | 3 |
| 26 | 745 | 404 | MOG | Montegue | CA | N4144 | W12229 | | 174 | 590 | 4 |
| Total: | | | | | | | | | 649 | | |

| | |
|---|------------|
| To encourage realistic flights, pilots were asked to try to get a high value for all four of these: | USA CA dn |
| Start-Finish direct miles: | 590 |
| Total Flight distance miles: | 649 |
| Directness (%): | 91 |
| No. of Legs (NDBs): | 4 |
| Shortest leg (miles): | 138 |
| Longest leg (miles): | 174 |
| Legginess (%): | 79 |

USA MI jb Joe Miller, Troy:

| dd | UTC | kHz | Ident | Location | Cou. | Lat. | Long. | miles LEG | direct miles from start | Leg No. |
|--------|------|-----|-------|----------------------|------|-------|--------|--------------|----------------------------------|---------|
| | | | HOME: | Troy | MI | N4237 | W08311 | 0 | 0 | 0 |
| 24 | 2315 | 404 | ZR | Sarnia | ON | N4256 | W08214 | 53 | 53 | 1 |
| 24 | 2324 | 382 | XU | London | ON | N4306 | W08113 | 53 | 105 | 2 |
| 24 | 2328 | 335 | ZKF | Wellington Kitchener | ON | N4330 | W08017 | 54 | 159 | 3 |
| Total: | | | | | | | | 160 | | |

| | |
|---|--------------|
| To encourage realistic flights, pilots were asked to try to get a high value for all four of these: | USA MI jb |
| Start-Finish direct miles: | 159 |
| Total Flight distance miles: | 160 |
| Directness (%): | 99 |
| No. of Legs (NDBs): | 3 |
| Shortest leg (miles): | 53 |
| Longest leg (miles): | 54 |
| Legginess (%): | 98 |

USA MO dp Dick Palmer, Foristell:

| dd | UTC | kHz | Ident | Location | Cou. | Lat. | Long. | miles LEG | direct miles from start | Leg No. |
|--------|------|-----|-------|---------------------|------|-------|--------|--------------|----------------------------------|---------|
| | | | HOME: | Foristell, Missouri | USA | N3851 | W09054 | 0 | 0 | 0 |
| 26 | 1632 | 293 | UI | Quincy, Illinois | USA | N3953 | W09115 | 74 | 74 | 1 |
| 26 | 1633 | 366 | EOK | Keokuk, Iowa | USA | N4028 | W09126 | 41 | 115 | 2 |
| 26 | 1634 | 212 | MPZ | Mt. Pleasant, Iowa | USA | N4057 | W09131 | 34 | 149 | 3 |
| 26 | 1635 | 206 | IIB | Independence, Iowa | USA | N4227 | W09157 | 106 | 255 | 4 |
| Total: | | | | | | | | 255 | | |

| | |
|---|--------------|
| To encourage realistic flights, pilots were asked to try to get a high value for all four of these: | USA MO dp |
| Start-Finish direct miles: | 255 |
| Total Flight distance miles: | 255 |
| Directness (%): | 100 |
| No. of Legs (NDBs): | 4 |
| Shortest leg (miles): | 34 |
| Longest leg (miles): | 106 |
| Legginess (%): | 32 |

USA NH jc John Collins, Charlestown:

| miles | direct miles |
|-------|-----------------|
| | |

| dd | UTC | kHz | Ident | Location | Cou. | Lat. | Long. | LEG | from start | Leg No. |
|--------|-----|-----|-------|----------------|------|-------|--------|-------|------------|---------|
| | | | HOME: | Charlestown | NH | N4315 | W07226 | 0 | 0 | 0 |
| 25 | 18 | 205 | ORE | Orange | MA | N4234 | W07212 | 49 | 49 | 1 |
| 25 | 35 | 362 | JWE | Oxford | CT | N4124 | W07307 | 93 | 133 | 2 |
| 25 | 114 | 407 | FR | Farmingdale | NY | N4047 | W07329 | 47 | 179 | 3 |
| 25 | 637 | 363 | RNB | Millville | NJ | N3925 | W07508 | 129 | 300 | 4 |
| 25 | 641 | 355 | CGE | Cambridge | MD | N3832 | W07602 | 78 | 376 | 5 |
| 25 | 645 | 254 | LLW | Elizabeth City | NC | N3616 | W07618 | 157 | 524 | 6 |
| 25 | 737 | 216 | CLB | Carolina Beach | NC | N3406 | W07758 | 177 | 699 | 7 |
| 25 | 739 | 329 | CH | Charleston | SC | N3259 | W08006 | 145 | 822 | 8 |
| 25 | 744 | 344 | JA | Jacksonville | FL | N3028 | W08148 | 201 | 1,023 | 9 |
| 25 | 755 | 332 | FIS | Key West | FL | N2433 | W08147 | 409 | 1,397 | 10 |
| 25 | 801 | 391 | DDP | San Juan | PTR | N1828 | W06625 | 1,073 | 1,749 | 11 |
| 25 | 818 | 273 | DOM | Marigot | DMA | N1533 | W06118 | 394 | 2,024 | 12 |
| Total: | | | | | | | | 2,952 | | |

| | |
|---|--------------|
| To encourage realistic flights, pilots were asked to try to get a high value for all four of these: | USA NH jc |
| Start-Finish direct miles: | 2,024 |
| Total Flight distance miles: | 2,952 |
| Directness (%): | 69 |
| No. of Legs (NDBs): | 12 |
| Shortest leg (miles): | 47 |
| Longest leg (miles): | 1073 |
| Legginess (%): | 4 |

USA TN g4 George Muha, while at Waverly:

| dd | UTC | kHz | Ident | Location | Cou. | Lat. | Long. | LEG | direct miles from start | Leg No. |
|--------|-----|-----|-------|-----------------------|------|-------|--------|-----|-------------------------|---------|
| | | | HOME: | Waverly | TN | N3606 | W08745 | 0 | 0 | 0 |
| 25 | 157 | 217 | HZD | Huntingdon Carroll Co | TN | N3605 | W08828 | 40 | 40 | 1 |
| 25 | 200 | 335 | CK | Clarksville | TN | N3632 | W08723 | 68 | 36 | 2 |
| 25 | 202 | 341 | CQN | Chattanooga | TN | N3510 | W08509 | 157 | 160 | 3 |
| 25 | 203 | 371 | FQW | Murfreesboro | TN | N3558 | W08622 | 88 | 78 | 4 |
| 25 | 906 | 208 | CHQ | Charleston | MO | N3651 | W08921 | 177 | 103 | 5 |
| 25 | 907 | 273 | FK | Ft Campbell | KY | N3644 | W08725 | 107 | 48 | 6 |
| 25 | 947 | 394 | MK | Jackson | TN | N3531 | W08857 | 120 | 78 | 7 |
| 25 | 952 | 400 | SLO | Salem | IL | N3839 | W08858 | 217 | 188 | 8 |
| Total: | | | | | | | | 974 | | |

| | |
|---|------------|
| To encourage realistic flights, pilots were asked to try to get a high value for all four of these: | USA TN g4 |
| Start-Finish direct miles: | 188 |
| Total Flight distance miles: | 974 |
| Directness (%): | 19 |
| No. of Legs (NDBs): | 8 |
| Shortest leg (miles): | 40 |
| Longest leg (miles): | 217 |
| Legginess (%): | 18 |

USA TX du Douglas Springfield, New Chapel Hill, NE Texas:

| miles | direct miles |
|-------|--------------|
|-------|--------------|

| dd | UTC | kHz | Ident | Location | Cou. | Lat. | Long. | LEG | from start | Leg No. |
|--------|------|-----|-------|-----------------|------|-------|--------|-----|------------|---------|
| | | | HOME: | New Chapel Hill | TX | N3216 | W09513 | 0 | 0 | 0 |
| 24 | 2114 | 323 | HHW | Hugo | OK | N3402 | W09532 | 123 | 123 | 1 |
| 24 | 2123 | 338 | TU | Tulsa | OK | N3606 | W09553 | 144 | 268 | 2 |
| 27 | 955 | 326 | FO | Topeka | KS | N3853 | W09535 | 193 | 458 | 3 |
| Total: | | | | | | | | 460 | | |

| To encourage realistic flights, pilots were asked to try to get a high value for all four of these: | | USA TX du |
|---|--|-----------|
| Start-Finish direct miles: | | 458 |
| Total Flight distance miles: | | 460 |
| Directness (%): | | 100 |
| No. of Legs (NDBs): | | 3 |
| Shortest leg (miles): | | 123 |
| Longest leg (miles): | | 193 |
| Legginess (%): | | 64 |

USA UT mu Mark Moulding, Ogden, Northern UT:

| dd | UTC | kHz | Ident | Location | Cou. | Lat. | Long. | miles LEG | direct miles from start | Leg No. |
|--------|-----|-----|-------|----------------------|------|-------|--------|-----------|-------------------------|---------|
| | | | HOME: | Ogden | UT | N4113 | W11157 | 0 | 0 | 0 |
| 26 | 353 | 389 | TW | Strik Twin Falls | ID | N4229 | W11421 | 151 | 151 | 1 |
| 26 | 355 | 359 | BO | Boise | ID | N4336 | W11619 | 126 | 277 | 2 |
| 26 | 433 | 408 | MW | Moses Lake | WA | N4707 | W11916 | 282 | 545 | 3 |
| 26 | 716 | 251 | YCD | Nanaimo | BC | N4908 | W12352 | 254 | 796 | 4 |
| 26 | 722 | 400 | QQ | Comox | BC | N4945 | W12458 | 65 | 861 | 5 |
| 26 | 740 | 368 | ZP | Sandspit Moresby Is. | BC | N5312 | W13147 | 378 | 1,239 | 6 |
| Total: | | | | | | | | 1,256 | | |

| To encourage realistic flights, pilots were asked to try to get a high value for all four of these: | | USA UT mu |
|---|--|-----------|
| Start-Finish direct miles: | | 1,239 |
| Total Flight distance miles: | | 1,256 |
| Directness (%): | | 99 |
| No. of Legs (NDBs): | | 6 |
| Shortest leg (miles): | | 65 |
| Longest leg (miles): | | 378 |
| Legginess (%): | | 17 |

USA WA so Steven O'Kelley, The Dungeon, Nr Seattle:

| dd | UTC | kHz | Ident | Location | Cou. | Lat. | Long. | miles LEG | direct miles from start | Leg No. |
|----|-----|-----|-------|------------|------|-------|--------|-----------|-------------------------|---------|
| | | | HOME: | Nr Seattle | WA | N4730 | W12220 | 0 | 0 | 0 |
| 25 | 411 | 326 | DC | Princeton | BC | N4928 | W12031 | 159 | 159 | 1 |

| To encourage realistic flights, pilots were asked to try to get a high value for all four of these: | | USA WA so |
|---|--|-----------|
| Start-Finish direct miles: | | 1,347 |

| | | | | | | | |
|----|-----|-----|-----|--------------|----|-------|--------|
| 25 | 431 | 227 | CG | Castlegar | BC | N4927 | W11734 |
| 25 | 552 | 242 | XC | Cranbrook | BC | N4941 | W11547 |
| 25 | 631 | 248 | QL | Lethbridge | AB | N4936 | W11254 |
| 25 | 742 | 332 | XH | Medicine Hat | AB | N5001 | W11048 |
| 26 | 613 | 397 | ZSS | Yellowhead | SK | N5215 | W10644 |
| 26 | 620 | 385 | QV | Yorkton | SK | N5113 | W10233 |
| 26 | 711 | 248 | WG | Winnipeg | MB | N4954 | W09721 |
| 26 | 858 | 413 | YHD | Dryden | ON | N4952 | W09251 |

| | | |
|--------|-------|-------|
| 133 | 257 | 2 |
| 82 | 335 | 3 |
| 129 | 455 | 4 |
| 98 | 553 | 5 |
| 234 | 766 | 6 |
| 193 | 924 | 7 |
| 246 | 1,146 | 8 |
| 200 | 1,347 | 9 |
| Total: | | 1,474 |

| | |
|------------------------------|-----------|
| Total Flight distance miles: | 1,474 |
| Directness (%): | 91 |
| No. of Legs (NDBs): | 9 |
| Shortest leg (miles): | 82 |
| Longest leg (miles): | 246 |
| Legginess (%): | 33 |

BK 30 July 2015