SUBADULT AND JUVENILE BALD EAGLE MEASUREMENTS

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Measurements as reported in peer-reviewed publications. References are given below.

All measurements are from live birds unless otherwise indicated.

Measurements are given in metric units, converted from traditional where necessary. Conversions can be made at this link. Decimals are rounded off to the nearest 10th.

Where more than one eagle was measured, first number is the mean average (where available), range of measurements is given (where available) in parentheses.

A number centered across Female and Male columns indicates bird of undetermined sex.

N=number of birds examined.

Arranged by region from north to south, then by approximate age of bird (if known).

| | WEIGHT ¹ | | 1 LENGTH | | BILL DEPTH | | BILLY | BILL WIDTH | | CULMEN LENGTH | | FOOT PAD LENGTH | | TARSUS WIDTH | | TARSUS LENGTH | | MID-TOE LENGTH | | HALLUX TALON | | 8 TH PRIMARY | | CENTRAL RECTRIX | | 1 ST SECONDARY | | RY WING CHORD | | SDAN |
|---|--------------------------|---------------------|------------------|---------------|---------------------|---------------------|-------------|-------------|---------------------|-------------------|-------------------|-------------------|---------------------|---------------------|-----------------|-----------------|-----------------|-----------------|---------------------|---------------------|--------------------|-------------------------|-----------------|-----------------|-------------|---------------------------|------------|---------------|-----------------|-----------------|
| REGION | | | LENGTH | | DILL | DEFIN | DILL WIDTH | | COLIVIEN LENGTH | | FOOT PAD LENGTH | | TAKSUS WIDTH | | TAKSUS LENGTH | | WIID-TOE LENGTH | | HALLOX TALON | | 8 PRIIVIART | | CENTRAL RECTRIX | | 1 SECONDARY | | WING CHORD | | WINGSPAN | |
| (Reference) (ages if known) | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male |
| Alaska | 5089 | 4014 | 949.2 | 872 | | | | | | | | | | | | | | | | | | | 341.1 | 317 | | | 652.3 | 605.8 | 2327.4 | 2142.2 |
| (Imler et al. 1955) ² | (4359-5756) ³ | (3524-4568) | 4 (895.4-1012.7) | (848.4-906.8) |) | | | | | | | | | | | | | | | | | | (309.9-374.7) | | | | | (574.6-627.4) | (2231.9-2425.7) | (2073.2-2247.9) |
| (ages unspecified) | N=18 | N=18 | N=18 | N=18 | ļ | | | | | | | | | | | | | | 1 | | | | N=18 | N=18 | | | N=18 | N=18 | N=18 | N=18 |
| Alaska (Chura et al. 1967) | 5624 N=1 | 4899 N=1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (ages unspecified) | 14-2 | 14-1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Alaska, Canada, | | | | | | | | | | | | | | | | | | | | | | | 320 | | | | | | | |
| & North U.S. | | | | | | | | | | | | | | | | | | | | | | | N=1 | | | | | | | |
| (Bortolotti 1984c) ⁵ | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | |
| (1st-2nd winter) Alaska, Canada, | | | | | 35.8 | 32.2 | 32.2 | 29.9 | 54.3 | 50.3 | | | 16.6 | 14.5 | | | | | 44.2 | 20.1 | 472.3 | 441.2 | 328.9 | 313.2 | 402.1 | 368.2 | 651.4 | 608.5 | | |
| & North U.S. | | | | | (33-41.2) | (29.6-34.2) | (28.2-38.1) | (26.6-34.4) | 54.3 (50.4-58.7) | (41.7-53.6) | | | (14.8-18.9) | (13.1-16.2) | | | | | 44.2 (41.4-48.9) | 39.1 (32.7-42.6) | 472.3 (450-493) | (406-478) | (300-372) | (266-351) | (361-430) | (316-398) | (620-683) | (555-651) | | |
| (Bortolotti 1984c) ⁶ | | | | | N=15 | N=23 | N=18 | N=29 | N=18 | N=27 | | | N=19 | N=29 | | | | | N=19 | N=29 | N=19 | N=29 | N=17 | N=28 | N=15 | N=29 | N=19 | N=29 | | |
| (2 nd winter) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Alaska, Canada, | | | | | 34.9 | 32.4 | 33.6 | 29.8 | 55.2 | 51.7 | | | 15.9 | 14.3 | | | | | 45 | 40.4 | 454.9 | 426.4 | 312.6 | 284.4 | 384.2 | 359.8 | 631.5 | 602.3 | | |
| & North U.S. | | | | | (32.6-37.5) | (30.9-34.3) | (29.7-36.9) | (25.5-32.7) | (53-58.8) | (48.4-54.3) | | | (14.1-17.1) | (13.4-15.5) | | | | | (42.6-47.7) | (38-42.7) | (436-486) | (405-454) | (291-350) | (267-308) | (353-399) | (313-390) | (600-680) | (579-623) | | |
| (Bortolotti 1984c) ⁷ (3 rd winter) | | | | | N=8 | 12 | N=11 | N=14 | N=11 | N=14 | | | N=11 | N=14 | | | | | N=11 | N=14 | N=10 | N=13 | N=10 | N=10 | N=11 | N=13 | N=11 | N=13 | | |
| Alaska, Canada, | | | 1 | | 35.9 | 32.1 | 31.8 | 30.7 | 54.4 | 50.9 | | | 16.1 | 14.3 | | _ | | | 43.9 | 39.8 | 434.4 | 414.9 | 284.2 | 262.6 | 362.5 | 337.3 | 610.2 | 581.3 | | |
| & North U.S. | | | | | (33.8-37.8) | (31.3-32.7) | (28.2-34.8) | (28.4-33.9) | (51.2-60.6) | (48.3-52.9) | | | (14.9-18.1) | (12.9-16.4) | | | | | (41.3-47.8) | | (414-449) | (397-433) | (279-295) | (254-278) | (338-386) | (321-351) | (585-639) | (565-600) | | |
| (Bortolotti 1984c)8 | | | | | N=10 | N=10 | N=11 | N=14 | N=12 | N=14 | | | N=13 | N=13 | | | | | N=12 | N=14 | N=11 | N=14 | N=12 | N=14 | N=13 | N=13 | N=12 | N=14 | | |
| (4 th winter) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Saskatchewan | 5172 | 4066 | | | 33.7 | 30.4 | | | 54.4 | 49.1 | 147.3 | 132.2 | 16.5 | 14.4 | 74 | 71.4 | 70.9 | 64.6 | | | | | | | | | | | | |
| (Bortolotti 1984a) ⁹ (60+ days) | (4800-5600) N=21 | (3575-4500) N=26 | | | (32.5-35.4) N=31 | (29.5-31.3) N=33 | | \ | (52-56.5) N=20 | (45.5-51) N=26 | (142-158) N=31 | (126-138) N=33 | (15.6-17.8) N=31 | (13.4-15.7) N=33 | (65-80) N=31 | (66-76) N=33 | (66-75) N=31 | (60-68) N=33 | | | | | | | | | | | | |
| New Brunswick | | 974 | 1 | + | 14-31 | 14-33 | | | 10-20 | 14-20 | N-31 | 14-33 | 14-31 | N-33 | N-31 | N-33 | 14-31 | 14-33 | | | | | | | | | ł – | | 20 | 32 |
| (Wright 1953) ¹⁰ | | -7484) | | | | | | | | | | | 7 | | | | | | | | | | | | | | | | (1676.4 | |
| (ages unspecified) | N | =6 | | | | | | | | | | | | | | | | | | | | | | | | | | | N= | 20 |
| Ontario | | | | | | | | | | | | | | | | | | | | | | | 305.5 | 274 | | | | | | |
| (Bortolotti 1984c) ¹¹ | | | | | | | | | | N. | | | | | | | | | | | | | (304-307) | N=1 | | | | | | |
| (3 rd winter) Ontario | | | | + | _ | | | | | | | | | | | | | | | | | | N=2 282 | 277 | | | | | | |
| (Bortolotti 1984c) ¹² | | | | | | | | | | | | | | | | | | | | | | | N=1 | (273-281) | | | | | | |
| (4 th winter) | | | | | | | | | | | | | | | | | | | | | | | 1 | N=2 | | | | | | |
| Washington Terr. | | | | | | | | | 55 | 5.9 | | | | | | | | | | | | | 38 | 31 | | | 660 | .4 | | |
| (Baird 1874) ¹³ | | | \ \ | | | | | | N= | =1 | | | | | | | | | | | | | N= | =1 | | | N= | :1 | | |
| ("immature") | | | | | | | | | | | | | | | | | | | | | | | - | | | | ļ., | | | |
| Oregon (Feather Atlas) | | | | | | | | 1 | | 1 | | | | 1 | | | | | 1 | | 372 N=1 | | | | 294 N=1 | | | | | |
| (3 rd year) | | | | | | | | 1 | | 1 | | | | 1 | | | | | 1 | | ,,-1 | | | | ,,-1 | | | | | |
| Illinois | 5180 | 3969 | | | | | | | | | | | | | 88.7 | 92 | | | 1 | | | | 349.3 | 344 | | | 641 | 600 | 2103.3 | 1975 |
| (Southern 1964) | (4763-5783) | (3856-4082) | | | | | | 1 | | 1 | | | | 1 | (82-95) | (89-95) | | | 1 | | | | (324-381) | (343-345) | | | (635-747) | (577-623) | (2070-2145) | (1930-2020) |
| (1st year) | N=3 | N=2 | | 1 | | 1 | | | | | | ļ | | | N=3 | N=2 | | | 1 | | | | N=3 | N=2 | | | N=3 | N=2 | N=3 | N=2 |
| Illinois | | 4491 | | | | | | | | | | | | | | 89 | | | I | | | | | 356 | | | | 628 | 2030 | |
| (Southern 1964) (2 nd year) | | N=1 | | | | | | 1 | | 1 | | | | 1 | | N=1 | | | 1 | | | | | N=1 | | | | N=1 | N=1 | |
| Illinois | | | 1 | | | | | | 53 | 3.3 | | | | | 78 | 3.8 | 6 | 6 | | | | | 38 | 31 | | | 647 | 7.7 | | |
| Baird 1874 ¹⁴ (2 nd year?) | | | | | | | | | N= | | | | | | | =1 | N= | | | | | | N= | | | | N= | | | |
| Illinois | 5330 | | Ì | | | | | | | | | | | | 116 | | | | | | | | 343 | | | | 660 | | 2080 | |
| (Southern 1964) (3 rd year) | N=1 | | | | | | | | | | | | | | N=1 | | | | | | | | N=1 | | | | N=1 | | N=1 | |
| Tennessee | | 3941 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (TN pgf 2011) ¹⁵ (94 days) | | N=1 | | | | | | | | | | | | | | | | | I | | | | | | | | | | | |
| (94 days) | | I | 1 | 1 | | l | | l | | l | | I | | l | l l | | | l | | 1 | | | | | | 1 | I | | | |

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| | WEIGHT ¹ | | LENGTH | | BILL DEPTH | | BILL WIDTH | | CHIMENTENGTH | | FOOT PAD LENGTH | | TARSUS WIDTH | | TARSUS LENGTH | | MID-TOE LENGTH | | HALLUX TALON | | 8 TH PRIMARY | | CENTRAL RECTRIX | | 1 ST SECONDARY | | Y WING CHORD | | WINGSPAN | |
|--------------------------------|---------------------|-------------|--------|--------|--------------|--------|------------|--------|-------------------|------------------|-----------------|----------|-----------------|--------|-------------------|------------------|--------------------|-----------|--------------|--------|-------------------------|--------|-------------------|-------------|---------------------------|--------|--------------|-----------|--|--------|
| DECION | | | | | DILL DET TIT | | DIEL WIDTH | | COLINEIV ELIVOTTI | | 10011 AD LENGTH | | 1741000 1112111 | | 17111505 22110111 | | IVIID-TOE EEIVOTTI | | HALLOX FALOR | | 0 110 | I | CLITTICAL RECTRIX | | 1 SECONDAN | | wiite | CHORD | VIII VIII VIII VIII VIII VIII VIII VII | |
| REGION | Female | Male | Camala | Male | FI- | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male |
| (Reference) (ages if known) | remaie | iviale | Female | iviale | Female | iviale | Female | iviale | Female | iviale | remale | iviale | remaie | iviale | remaie | iviale | remale | iviale | remale | iviale | remaie | iviale | Female | iviale | remaie | iviale | remale | iviale | remale | iviale |
| | F010 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tennessee | 5018 N=1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (TN pgf 2011) | N=1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (95 days) | | 4054 | | | | 1 | 1 | | | | | | | | | | | | | | | | ł | | | | | | | |
| Tennessee (TN pgf 2011) | | 4054 N=1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (101 days) | | N=1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Florida | 4082 | | | | | 1 | 1 | | | | | | | | | | | | | | | | ł | | | | | | | |
| (Brodkorb 1955) | 4082 N=1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | N=1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (1st year) Unspecified | | | | | | 1 | 1 | | 53.3-55.9 | 40 E EE 0 | | | | | 92 6 04 | 81.3-83.8 | CA 0 70 7 | 60 6 72 7 | | | | | 381-393.7 | 304.8-387.4 | | | 647.7-660.4 | E06 0 63E | | |
| Baird 1874 ¹⁶ | | | | | | | | | 53.3-55.9 N=2 | 49.5-55.9 N=5 | | | | | 82.6-94 N=2 | 81.3-83.8 N=5 | N=2 | N=5 | | | | | 381-393.7 N=2 | | | | N=2 | | | |
| (juvenile) | | | | | | | | | IV=2 | N=5 | | | | | IV=2 | N=5 | N=2 | N=5 | | | | | N=2 | N=5 | | | N=2 | N=5 | | |
| Unspecified | | | | | | ļ | ! | | | | | | | | | | | | | | 419 | | | | 222 | | | | | |
| (Feather Atlas) | | | | | | | | | | | | | | | | | | | | | N=1 | | | | 332 N=1 | | | | | |
| (1st year) | | | | | | | | | | | | | | | | | | | | | /v=1 | | | | N=1 | | | | | |
| Unspecified | | | | | | ļ | ! | | | | | | | | | | | | | | 4/ | 11 | | | 32 | 17 | | | | |
| (Feather Atlas)17 | | | | | | | | | | | | | | | | | | | | | 44 N= | | | | N= | | | | | |
| | | | | | | | | | | | | | | | | | | | | | /V: | -1 | | | /V= | -1 | | | | |
| (subadult) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

¹ Whether stomach and crop contents are included in weight is unknown unless indicated.

² Museum specimens.

³ Subtracts weight of food in crop and stomach.

⁴ Subtracts weight of food in crop and stomach.

Solutions weight of rood in crop and solution.

5 Captive.

6 Museum specimens. Includes measurements for chord of bill from tip to gape: female 77.0 (69.9-81.7) N=17, male 72.5 (67.4-77.3), N=27.

⁷ Museum specimens. Includes measurements for chord of bill from tip to gape: female 76.4 (70.8-80.8), N=11, male 73.1 (71.5-75.1), N=14.

⁸ Museum specimens. Includes measurements for chord of bill from tip to gape: female 76.8 (72.6-81.9), N=13, male 72.1 (68.5-76.8), N=13. 9 Nestlings.

¹⁰ Sex and age unspecified.

¹¹ Captives.

¹² Captive.

¹³ Shoalwater Bay, Washington Territory (before statehood in 1889). Presumably captured or dead birds.

¹⁴ Mt. Carmel, IL (latitude 38.42 N). Presumably captured or dead bird.

¹⁵ Captive parents. Nestlings removed from nest, weighed, and released from hack tower.
¹⁶ Museum specimens.

¹⁷ Age unspecified.

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