

CARE Reference List

This is a list of ageing and related references compiled by CARE members. If you have new references or corrections you would like to see added to the list please email Sonya Elmejjati .

To search through the list use your browsers search function (Ctrl + F).

Additional recommended ageing publications

Download EndNote file

^

^

Anderl, D. M., A. Nishimura, and S. A. Lowe. 1996. Is the first annulus on the otolith of the Atka mackerel, *Pleurogrammus monopherygius*, missing? *Fishery Bulletin* 94(1):163-169.

Andrews, A. H., E. J. Burton, K. H. Coale, G. M. Cailliet, and R. E. Crabtree. 2001. Radiometric age validation of Atlantic tarpon, *Megalops atlanticus*. *Fishery Bulletin* 99(3):389-398.

Andrews, A. H., E. J. Burton, L. A. Kerr, G. M. Cailliet, K. H. Coale, C. C. Lundstrom, and T. A. Brown. 2005. Bomb radiocarbon and lead-radium disequilibria in otoliths of bocaccio rockfish (*Sebastes paucispinis*): a determination of age and longevity for a difficult-to-age fish. *Marine and Freshwater Research* 56(5):517-528.

Andrews, A. H., G. M. Cailliet, K. H. Coale, K. M. Munk, M. M. Mahoney, and V. M. O'Connell. 2002. Radiometric age validation of the yelloweye rockfish (*Sebastes ruberrimus*) from southeastern Alaska. *Marine and Freshwater Research* 53(2):139-146.

Andrews, A. H., G. M. Cailliet, and K. H. Coale. 1999. Age and growth of the Pacific grenadier (*Coryphaenoides acrolepis*) with age estimate validation using an improved radiometric ageing technique. *Canadian Journal of Fisheries and Aquatic Sciences* 56(8):1339-1350.

Andrews, A. H., K. H. Coale, J. L. Nowicki, C. Lundstrom, Z. Palacz, E. J. Burton, and G. M. Cailliet. 1999. Application of an ion-exchange separation technique and thermal ionization mass spectrometry to Ra-226 determination in otoliths for radiometric age determination of long-lived fishes. *Canadian Journal of Fisheries and Aquatic Sciences* 56(8):1329-1338.

Andrews, A. H., E. E. Cordes, M. M. Mahoney, K. Munk, K. H. Coale, G. M. Cailliet, and J. Heifetz. 2002. Age, growth and radiometric age validation of a deep-sea, habitat-forming gorgonian (*Primnoa resedaeformis*) from the Gulf of Alaska. *Hydrobiologia* 471:101-110.

Andrews, A. H., L. A. Kerr, G. M. Cailliet, T. A. Brown, C. C. Lundstrom, and R. D. Stanley. 2007. Age validation of canary rockfish (*Sebastes pinniger*) using two independent otolith techniques: lead-radium and bomb radiocarbon dating. *Marine and Freshwater Research* 58(6):531-541.

Andrews, A. H., R. P. Stone, C. C. Lundstrom, and A. P. DeVogelaere. 2009. Growth rate and age determination of bamboo corals from the northeastern Pacific Ocean using refined Pb-210 dating. *Marine Ecology Progress Series* 397:173-185.

Andrews, A. H., D. M. Tracey, and M. R. Dunn. 2009. Lead-radium dating of orange roughy (*Hoplostethus atlanticus*): validation of a centenarian life span. *Canadian Journal of Fisheries and Aquatic Sciences* 66(7):1130-1140.

Baker, M. S., and C. A. Wilson. 2001. Use of bomb radiocarbon to validate otolith section ages of red snapper *Lutjanus campechanus* from the northern Gulf of Mexico. *Limnology and Oceanography* 46(7):1819-1824.

Baker, M. S., C. A. Wilson, and D. L. VanGent. 2001. Testing assumptions of otolith radiometric aging with two long-lived fishes from the northern Gulf of Mexico. *Canadian Journal of Fisheries and Aquatic Sciences* 58(6):1244-1252.

Beamish, R. J. 1973. Determination of age and growth of populations of the white sucker (*Catostomus commersoni*) exhibiting a wide range in size at maturity. *Journal Fisheries Research Board of Canada* 30(5):607-616.

Beamish, R. J. 1981. Use of fin-ray sections to age walleye pollock, Pacific cod, and albacore, and the importance of

this method. *Transactions of the American Fisheries Society* 110(2):287-299.

Beamish, R. J., and D. Chilton. 1977. Age determination of lingcod (*Ophiodon elongatus*) using dorsal fin rays and scales. *Journal Fisheries Research Board of Canada* 34(9):1305-1313.

Beamish, R. J., and D. E. Chilton. 1982. Preliminary evaluation of a method to determine the age of Sablefish (*Anoplopoma fimbria*). *Canadian Journal of Fisheries and Aquatic Sciences* 39(2):277-287.

Beamish, R. J., and D. A. Fournier. 1981. A method for comparing the precision of a set of age determinations. *Canadian Journal of Fisheries and Aquatic Sciences* 38(8):982-983.

Beamish, R. J., and H. H. Harvey. 1969. Age determination in the white sucker. *Journal Fisheries Research Board of Canada* 26:633-638.

Beamish, R. J., and G. A. McFarlane. 1983. The forgotten requirement for age validation in fisheries biology. *Transactions of the American Fisheries Society* 112(6):735-743.

Beamish, R. J., and G. A. McFarlane. 1985. Annulus development on the second dorsal spine of the spiny dogfish (*Squalus acanthias*) its validity for age determination. *Canadian Journal of Fisheries and Aquatic Sciences* 42(11):1799-1805.

Beamish, R. J., and G. A. McFarlane. 1987. Current trends in age determination methodology. Pages 15-42 [in] R. C. Summerfelt, Editor. *the age and growth of fish*

Beamish, R. J., and G. A. McFarlane. 1995. A discussion of the importance of aging errors, and an application to walleye pollock: the world's largest fishery. Pages 545-565 [in] D. H. Secor, J. M. Dean, and S. E. Campana, Editors. *Recent Developments in Fish Otolith Research*. University of South Carolina Press, Columbia, South Carolina.

Beamish, R. J., and G. A. McFarlane. 2000. Reevaluation of the interpretation of annuli from otoliths of a long-lived fish, *Anoplopoma fimbria*. *Fisheries Research* 46(1-3):105-111.

Bennett, J. T., G. W. Boehlert, and K. K. Turekian. 1982. Confirmation of longevity in *Sebastes diploproa* (Pisces, Scorpaenidae) from Pb-210-Ra-226 measurements in otoliths. *Marine Biology* 71(2):209-215.

Bilton, H. T., and D. W. Jenkinson. 1969. Age determination of sockeye (*Oncorhynchus nerka*) and chum (*O. keta*) salmon from examination of pectoral fin rays. *Journal Fisheries Research Board of Canada* 26:1199-1203.

Bilton, H. T., and S. A. M. Ludwig. 1966. Times of annulus formation on scales of sockeye, pink and chum salmon in the Gulf of Alaska. *Journal Fisheries Research Board of Canada* 23:1403-1410.

Black, B. A. 2009. Climate-driven synchrony across tree, bivalve, and rockfish growth-increment chronologies of the northeast Pacific. *Marine Ecology Progress Series* 378:37-46.

Black, B. A., G. W. Boehlert, and M. M. Yoklavich. 2005. Using tree-ring crossdating techniques to validate annual growth increments in long-lived fishes. *Canadian Journal of Fisheries and Aquatic Sciences* 62(10):2277-2284.

Black, B. A., G. W. Boehlert, and M. M. Yoklavich. 2008. Establishing climate-growth relationships for yelloweye rockfish (*Sebastes ruberrimus*) in the northeast Pacific using a dendrochronological approach. *Fisheries Oceanography* 17(5):368-379.

Black, B. A., C. A. Copenheaver, D. C. Frank, M. J. Stuckey, and R. E. Kormanyos. 2009. Multi-proxy reconstructions of northeastern Pacific sea surface temperature data from trees and Pacific geoduck. *Palaeogeography Palaeoclimatology Palaeoecology* 278(1-4):40-47.

Black, B. A., D. C. Gillespie, S. E. MacLellan, and C. M. Hand. 2008. Establishing highly accurate production-age data using the tree-ring technique of crossdating: a case study for Pacific geoduck (*Panopea abrupta*). *Canadian Journal of Fisheries and Aquatic Sciences* 65(12):2572-2578.

Cailliet, G. M., A. H. Andrews, E. J. Burton, D. L. Watters, D. E. Kline, and L. A. Ferry-Graham. 2001. Age determination and validation studies of marine fishes: do deep-dwellers live longer? *Experimental Gerontology* 36(4-6):739-764.

Campana, S. E. 1997. Use of radiocarbon from nuclear fallout as a dated marker in the otoliths of haddock *Melanogrammus aeglefinus*. *Marine Ecology-Progress Series* 150(1-3):49-56.

- Campana, S. E. 1999. Chemistry and composition of fish otoliths: pathways, mechanisms and applications. *Marine Ecology Progress Series* 188:263-297.
- Campana, S. E. 2001. Accuracy, precision and quality control in age determination, including a review of the use and abuse of age validation methods. *Journal of Fish Biology* 59(2):197-242.
- Campana, S. E. 2005. Otolith science entering the 21st century. *Marine and Freshwater Research* 56(5):485-495.
- Campana, S. E., J. M. Casselman, and C. M. Jones. 2008. Bomb radiocarbon chronologies in the Arctic, with implications for the age validation of lake trout (*Salvelinus namaycush*) and other Arctic species. *Canadian Journal of Fisheries and Aquatic Sciences* 65(4):733-743.
- Campana, S. E., G. A. Chouinard, J. M. Hanson, A. Frechet, and J. Bratney. 2000. Otolith elemental fingerprints as biological tracers of fish stocks. *Fisheries Research* 46(1-3):343-357.
- Campana, S. E., C. Jones, G. A. McFarlane, and S. Myklevoll. 2006. Bomb dating and age validation using the spines of spiny dogfish (*Squalus acanthias*). *Environmental Biology of Fishes* 77(3-4):327-336.
- Campana, S. E., and C. M. Jones. 1998. Radiocarbon from nuclear testing applied to age validation of black drum, *Pogonias cromis*. *Fishery Bulletin* 96(2):185-192.
- Campana, S. E., L. J. Natanson, and S. Myklevoll. 2002. Bomb dating and age determination of large pelagic sharks. *Canadian Journal of Fisheries and Aquatic Sciences* 59(3):450-455.
- Campana, S. E., R. D. Stanley, and S. Wischniowski. 2003. Suitability of glycerin-preserved otoliths for age validation using bomb radiocarbon. *Journal of Fish Biology* 63(4):848-854.
- Campana, S. E., and S. R. Thorrold. 2001. Otoliths, increments, and elements: keys to a comprehensive understanding of fish populations? *Canadian Journal of Fisheries and Aquatic Sciences* 58(1):30-38.
- Campana, S. E., K. C. T. Zwanenburg, and J. N. Smith. 1990. Pb-210/Ra-226 determination of longevity in redbfish. *Canadian Journal of Fisheries and Aquatic Sciences* 47(1):163-165.
- Cass, A. J., and R. J. Beamish. 1983. First evidence of validity of the fin-ray method of age determination for marine fishes. *North American Journal of Fisheries Management* 3(2):182-188.
- Chilton, D. E., and H. T. Bilton. 1986. New method for ageing chinook salmon (*Oncorhynchus tshawytscha*) using dorsal fin rays, and evidence of its validity. *Canadian Journal of Fisheries and Aquatic Sciences* 43(8):1588-1594.
- Chilton, D. E., and M. Stocker. 1987. A comparison of otolith and scale methods for aging Pacific herring. *North American Journal of Fisheries Management* 7(2):202-206.
- Fargo, J., and D. E. Chilton. 1987. Age validation for rock sole in Hecate Strait, British Columbia. *Transactions of the American Fisheries Society* 116(5):776-778.
- Fenton, G. E., and S. A. Short. 1992. Fish age validation by radiometric analysis of otoliths. *Australian Journal of Marine and Freshwater Research* 43(5):913-922.
- Fenton, G. E., S. A. Short, and D. A. Ritz. 1991. Age-determination of orange roughy, *Hoplostethus atlanticus* (Pisces, Trachichthyidae) using Pb-210-Ra-226 disequilibria. *Marine Biology* 109(2):197-202.
- Ferreira, L. C. G., R. J. Beamish, and J. H. Youson. 1999. Macroscopic structure of the fin-rays and their annuli in pectoral and pelvic fins of chinook salmon, *Oncorhynchus tshawytscha*. *Journal of Morphology* 239(3):297-320.
- Kalish, J. M. 1991. Oxygen and carbon stable isotopes in the otoliths of wild and laboratory-reared Australian salmon (*Arripis trutta*). *Marine Biology* 110(1):37-47.
- Kalish, J. M. 1993. Pre-bomb and post-bomb radiocarbon in fish otoliths. *Earth and Planetary Science Letters* 114(4):549-554.
- Kalish, J. M. 1995. Application of the bomb radiocarbon chronometer to the validation of redbfish *Centroberyx affinis* age. *Canadian Journal of Fisheries and Aquatic Sciences* 52(7):1399-1405.
- Kalish, J. M., J. M. Johnston, J. S. Gunn, and N. P. Clear. 1996. Use of the bomb radiocarbon chronometer to determine age of southern bluefin tuna *Thunnus maccoyii*. *Marine Ecology Progress Series* 143(1-3):1-8.

- Kalish, J. M., J. M. Johnston, D. C. Smith, A. K. Morison, and S. G. Robertson. 1997. Use of the bomb radiocarbon chronometer for age validation in the blue grenadier *Macrurus novaezelandiae*. *Marine Biology* 128(4):557-563.
- Kalish, J. M., R. Nydal, K. H. Nedreaas, G. S. Burr, and G. L. Eine. 2001. A time history of pre- and post-bomb radiocarbon in the Barents Sea derived from Arcto-Norwegian cod otoliths. *Radiocarbon* 43(2B):843-855.
- Kastelle, C. R., D. M. Anderl, D. K. Kimura, and C. G. Johnston. 2008. Age validation of Dover sole (*Microstomus pacificus*) by means of bomb radiocarbon. *Fishery Bulletin* 106(4):375-385.
- Kastelle, C. R., and J. E. Forsberg. 2002. Testing for loss of Rn-222 from Pacific halibut (*Hippoglossus stenolepis*) otoliths. *Fisheries Research* 57(1):93-98.
- Kastelle, C. R., and D. K. Kimura. 2006. Age validation of walleye pollock (*Theragra chalcogramma*) from the Gulf of Alaska using the disequilibrium of Pb-210 and Ra-226. *Ices Journal of Marine Science* 63(8):1520-1529.
- Kastelle, C. R., D. K. Kimura, and B. J. Goetz. 2008. Bomb radiocarbon age validation of Pacific ocean perch (*Sebastes alutus*) using new statistical methods. *Canadian Journal of Fisheries and Aquatic Sciences* 65(6):1101-1112.
- Kastelle, C. R., D. K. Kimura, and S. R. Jay. 2000. Using Pb-210/Ra-226 disequilibrium to validate conventional ages in Scorpaenids (genera *Sebastes* and *Sebastolobus*). *Fisheries Research* 46(1-3):299-312.
- Kastelle, C. R., D. K. Kimura, A. E. Nevissi, and D. R. Gunderson. 1994. Using Pb-210/Ra-226 disequilibria for sablefish, *Anoplopoma fimbria*, age validation. *Fishery Bulletin* 92(2):292-301.
- Kastelle, C. R., K. E. W. Shelden, and D. K. Kimura. 2003. Age determination of mysticete whales using Pb-210/Ra-226 disequilibria. *Canadian Journal of Zoology* 81(1):21-32.
- Kerr, L. A., A. H. Andrews, B. R. Frantz, K. H. Coale, T. A. Brown, and G. M. Cailliet. 2004. Radiocarbon in otoliths of yelloweye rockfish (*Sebastes ruberrimus*): a reference time series for the coastal waters of southeast Alaska. *Canadian Journal of Fisheries and Aquatic Sciences* 61(3):443-451.
- Kerr, L. A., A. H. Andrews, K. Munk, K. H. Coale, B. R. Frantz, G. M. Cailliet, and T. A. Brown. 2005. Age validation of quillback rockfish (*Sebastes maliger*) using bomb radiocarbon. *Fishery Bulletin* 103(1):97-107.
- Kimura, D. K., and D. M. Anderl. 2005. Quality control of age data at the Alaska Fisheries Science Center. *Marine and Freshwater Research* 56(5):783-789.
- Kimura, D. K., D. M. Anderl, and B. J. Goetz. 2007. Seasonal marginal growth on otoliths of seven Alaska groundfish species support the existence of annual patterns. *Alaska Fishery Research Bulletin* 12(2):243-251.
- Kimura, D. K., and C. R. Kastelle. 1995. Perspectives on the relationship between otolith growth and the conversion of isotope activity ratios to fish ages. *Canadian Journal of Fisheries and Aquatic Sciences* 52(10):2296-2303.
- Kimura, D. K., C. R. Kastelle, B. J. Goetz, C. M. Gburski, and A. V. Buslov. 2006. Corroborating the ages of walleye pollock (*Theragra chalcogramma*). *Marine and Freshwater Research* 57(3):323-332.
- Kimura, D. K., and J. J. Lyons. 1991. Between-reader bias and variability in the age-determination process. *Fishery Bulletin* 89(1):53-60.
- Kimura, D. K., J. J. Lyons, S. E. Maclellan, and B. J. Goetz. 1992. Effects of year-class strength on age-determination. *Australian Journal of Marine and Freshwater Research* 43(5):1221-1228.
- Kimura, D. K., R. R. Mandapat, and S. L. Oxford. 1979. Method, validity, and variability in the age determination of yellowtail rockfish (*Sebastes flavidus*), using otoliths. *Journal Of The Fisheries Research Board Of Canada* 36(4):377-383.
- Leaman, B. M., and D. A. Nagtegaal. 1987. Age validation and revised natural mortality rate for yellowtail rockfish. *Transactions of the American Fisheries Society* 116(2):171-175.
- LeBreton, G. T. O., and F. H. Beamish. 2000. Interannual growth variation in fish and tree rings. *Canadian Journal of Fisheries and Aquatic Sciences* 57(11):2345-2356.
- MacLellan, S. E. 2146. How to age rockfish (*Sebastes*) using *S. alutus* as an example - the otolith burnt section technique. *Canadian Technical Report of Fisheries and Aquatic Sciences* 2146:1-39.

- Matta, M. E., B. A. Black, and T. K. Wilderbuer. 2010. Climate-driven synchrony in otolith growth-increment chronologies for three Bering Sea flatfish species. *Marine Ecology Progress Series* 413:137-145.
- Matta, M. E., and D. R. Gunderson. 2007. Age, growth, maturity, and mortality of the Alaska skate, *Bathyraja parmifera*, in the eastern Bering Sea. *Environmental Biology of Fishes* 80:309-323.
- Matta, M. E., and D. K. Kimura. IN PRESS. Age determination manual of the Alaska Fisheries Science Center Age and Growth Program. NOAA Professional Paper NMFS XX
- McFarlane, G. A., and J. R. King. 2001. The validity of the fin-ray method of age determination for lingcod (*Ophiodon elongatus*). *Fishery Bulletin* 99(3):459-464.
- McNicol, R. E., and S. E. MacLellan. 2010. Accuracy of using scales to age mixed-stock chinook salmon of hatchery origin. *Transactions of the American Fisheries Society* 139(3):727-734.
- Mills, K. H., and R. J. Beamish. 1980. Comparison of fin-ray and scale age determinations for lake whitefish (*Coregonus clupeaformis*) and their implications for estimates of growth and annual survival. *Canadian Journal of Fisheries and Aquatic Sciences* 37(3):534-544.
- Munk, K. M. 2001. Maximum ages of groundfishes in waters off Alaska and British Columbia and considerations of age determination. *Alaska Fishery Research Bulletin* 8(1):12-21.
- Munk, K. M. 2001. Walleye pollock otolith aging: comparison of the techniques used by two agencies. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report RIR 5J01-06, Juneau.
- Piner, K. R., M. A. Haltuch, and J. R. Wallace. 2005. Preliminary use of oxygen stable isotopes and the 1983 El Nino to assess the accuracy of aging black rockfish (*Sebastes melanops*). *Fishery Bulletin* 103(3):553-558.
- Piner, K. R., O. S. Hamel, J. L. Menkel, J. R. Wallace, and C. E. Hutchinson. 2005. Age validation of canary rockfish (*Sebastes pinniger*) from off the Oregon coast (USA) using the bomb radiocarbon method. *Canadian Journal of Fisheries and Aquatic Sciences* 62(5):1060-1066.
- Piner, K. R., J. R. Wallace, O. S. Hamel, and R. Mikus. 2006. Evaluation of ageing accuracy of bocaccio (*Sebastes paucispinis*) rockfish using bomb radiocarbon. *Fisheries Research* 77(2):200-206.
- Piner, K. R., and S. G. Wischniowski. 2004. Pacific halibut chronology of bomb radiocarbon in otoliths from 1944 to 1981 and a validation of ageing methods. *Journal of Fish Biology* 64(4):1060-1071.
- Richards, L. J., J. T. Schnute, A. R. Kronlund, and R. J. Beamish. 1992. Statistical models for the analysis of ageing error. *Canadian Journal of Fisheries and Aquatic Sciences* 49(9):1801-1815.
- Roberson, N. E., D. K. Kimura, D. R. Gunderson, and A. M. Shimada. 2005. Indirect validation of the age-reading method for Pacific cod (*Gadus macrocephalus*) using otoliths from marked and recaptured fish. *Fishery Bulletin* 103(1):153-160.
- Stevens, M. M., A. H. Andrews, G. M. Cailliet, K. H. Coale, and C. C. Lundstrom. 2004. Radiometric validation of age, growth, and longevity for the blackgill rockfish (*Sebastes melanostomus*). *Fishery Bulletin* 102(4):711-722.
- Stransky, C., and S. E. MacLellan. 2005. Species separation and zoogeography of redfish and rockfish (genus *Sebastes*) by otolith shape analysis. *Canadian Journal of Fisheries and Aquatic Sciences* 62(10):2265-2276.
- Strom, A., R. C. Francis, N. J. Mantua, E. L. Miles, and D. L. Peterson. 2004. North Pacific climate recorded in growth rings of geoduck clams: a new tool for paleoenvironmental reconstruction. *Geophysical Research Letters* 31(6):-.
- Strom, A., R. C. Francis, N. J. Mantua, E. L. Miles, and D. L. Peterson. 2005. Preserving low-frequency climate signals in growth records of geoduck clams (*Panopea abrupta*). *Palaeogeography Palaeoclimatology Palaeoecology* 228(1-2):167-178.
- Stuiver, M., and H. A. Polach. 1977. Discussion: reporting of C-14 data. *Radiocarbon* 19(3):355-363.
- Sweeting, R. M., R. J. Beamish, and C. M. Neville. 2004. Crystalline otoliths in teleosts: comparisons between hatchery and wild coho salmon (*Oncorhynchus kisutch*) in the Strait of Georgia. *Reviews in Fish Biology and Fisheries* 14(3):361-369.

Thompson, J. E., and R. W. Hannah. 2010. Using cross-dating techniques to validate ages of aurora rockfish (*Sebastes aurora*): estimates of age, growth and female maturity. *Environmental Biology of Fishes* 88:377-388.

Tyler, A. V., R. J. Beamish, and G. A. McFarlane. 1989. Implications of age determination errors to yield estimates. *Canadian Special Publication of Fisheries and Aquatic Sciences* 108:27-35.

Watters, D. L., D. E. Kline, K. H. Coale, and G. M. Cailliet. 2006. Radiometric age confirmation and growth of a deep-water marine fish species: the bank rockfish, *Sebastes rufus*. *Fisheries Research* 81(2-3):251-257.

Weidel, B. C., T. Ushikubo, S. R. Carpenter, N. T. Kita, J. J. Cole, J. F. Kitchell, M. L. Pace, and J. W. Valley. 2007. Diary of a bluegill (*Lepomis macrochirus*): daily delta C-13 and delta O-18 records in otoliths by ion microprobe. *Canadian Journal of Fisheries and Aquatic Sciences* 64(12):1641-1645.

Weidman, C. R., and R. Millner. 2000. High-resolution stable isotope records from North Atlantic cod. *Fisheries Research* 46(1-3):327-342.

Zhang, Z., and R. J. Beamish. 2000. Use of otolith microstructure to study life history of juvenile chinook salmon in the Strait of Georgia in 1995 and 1996. *Fisheries Research* 46(1-3):239-250.

Â