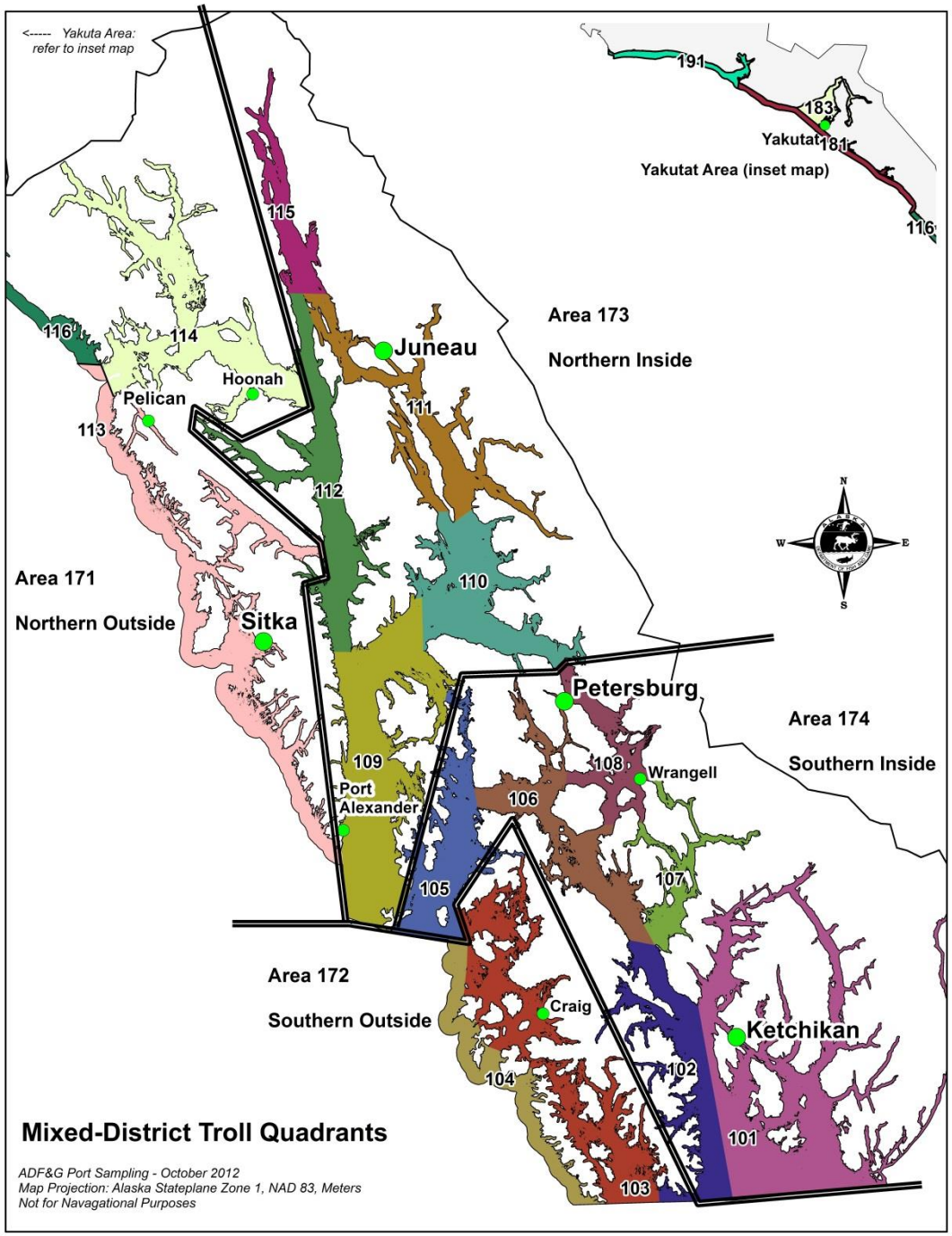
Chinook salmon scale aging in Southeast Alaska

- **Troll**
- **Gillnet**
- **Setnet**
- **Weir—Escapement**



Year	Number of Chinook scale samples
2009	5,807
2010	5,654
2011	7,703
2012	7,507
2013	4,810

Sum of scores < 0 = Age 0. and > 0 = 1.

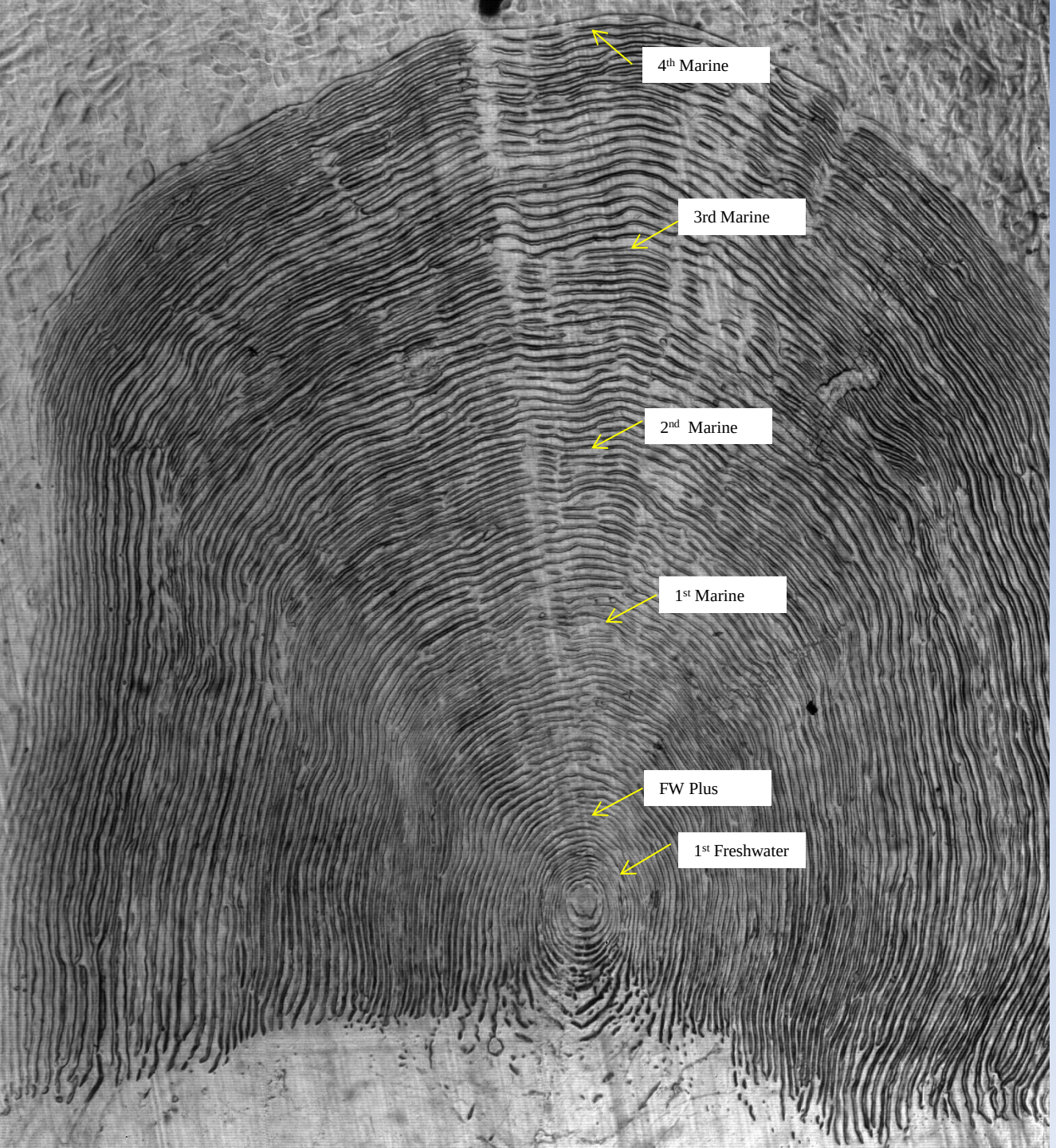
Criteria	Age 0. -2	Age 0. -1	Inconclusive 0	Age 1. +1	Age 1. +2
Freshwater Annulus	No FW annulus visible inside of transition zone FW circuli evenly spaced	Slight irregularities in circuli width and spacing without obvious narrowing, pinching, and braiding typical of a clear FW annulus	Several checks in FW zone, none strong enough to indicate an annulus	One or more moderately strong checks in FW zone Possible FW annulus confused with transition check FW circuli are different (finer and denser) than circuli of marine growth	Distinct FW annulus as evidenced by narrowing, pinching, and braiding circuli distinct from circuli in the transition zone FW circuli are distinctly different than marine growth circuli, this is exemplified in a "cut out" pattern
Caliper measurement [The distance between the 1st and 2nd marine annuli (measured on a radius bisecting the focus), moved inward one scale year, and scored according to placement of the the focal endpoint]	Measurement falls on or beyond focus on all radii measured	Measurement falls less than half the distance from the focus to the last FW circuli Measurement may fall on or beyond the focus on some radii		Measurement falls over half way between focus and the strongest FW check	Measurement falls on or near strong FW check
Distance and Spacing [Comparison of circuli in 1st marine summer with those in second marine summer]	Circuli on the inside of the 1st marine summer are distinctly closer and narrower than those in the 2nd marine summer Indistinct 1st marine annulus which circuli resembles those in marine summer Often two or more checks inside of 1st marine annulus	Circuli on either side of the 1st marine annulus are different but not as distinct as in the -2 category Non uniform growth through 1st marine year, occasionally growth differs between dorsal and ventral sides of the scale		Circuli are generally equal/ uniform between the 1st and 2nd marine summers Moderately distinct 1st marine annulus	Circuli are equal between the 1st and 2nd marine annular zones Distinct 1st marine annulus

ADF&G Region 1 Commercial Fisheries Scale Age Training Methods

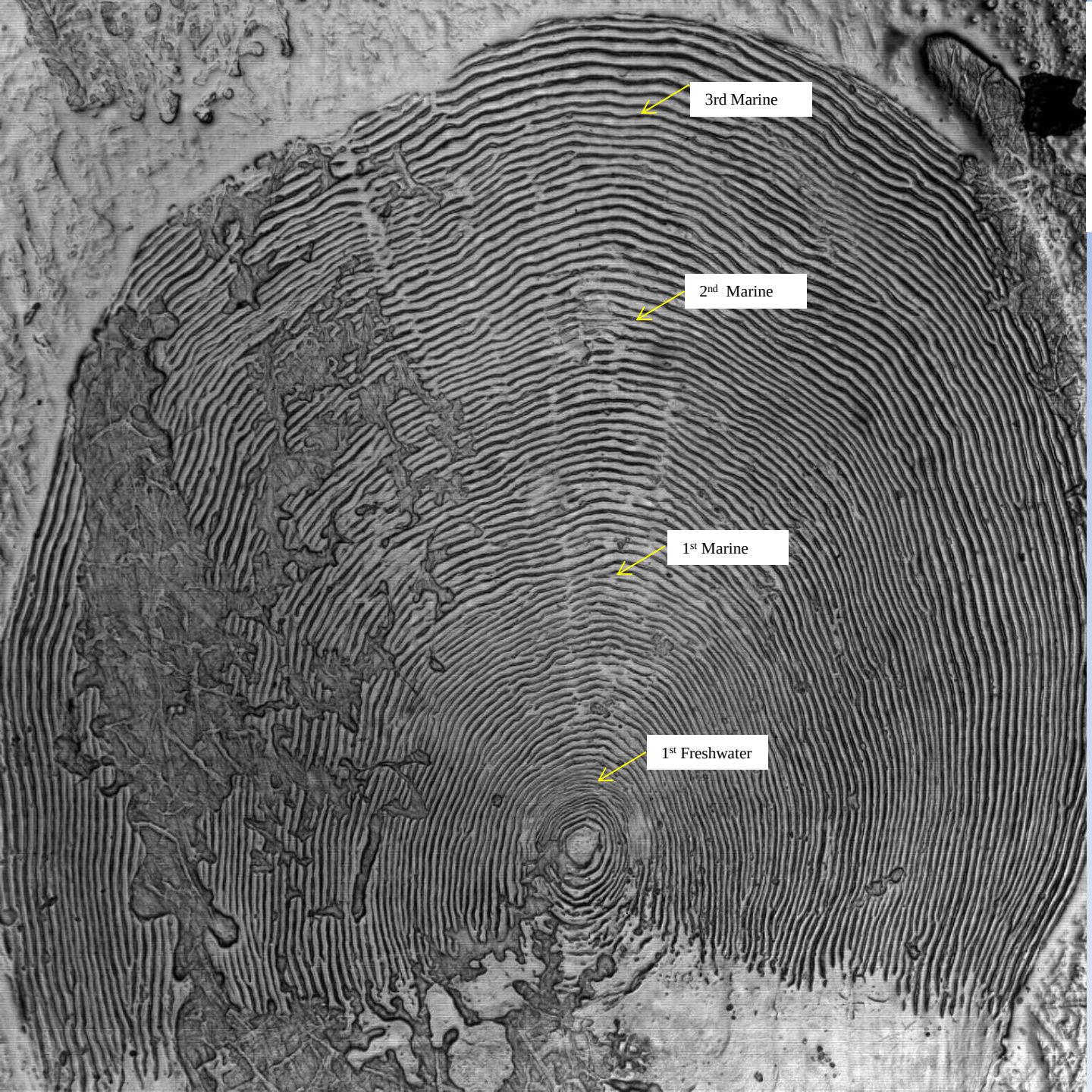
- New agers review previous 3-5 years of data depending on fishing area, gear, species
- New agers shadow experienced agers on current year data (↑ 6 months-1 year)
- New agers review questionable scales and/or age determinations with experienced agers

Challenges to aging Chinook salmon scales

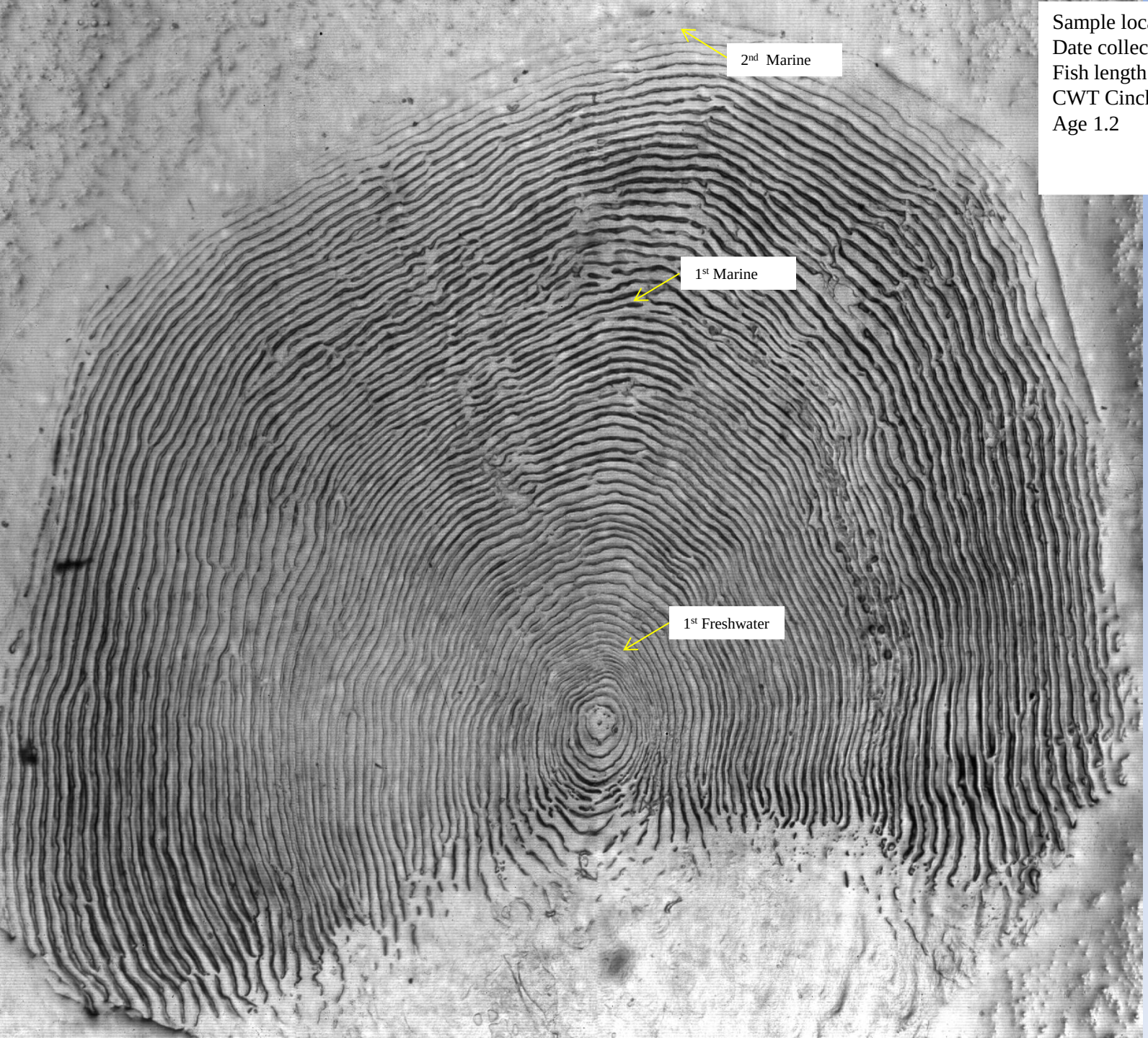
- Mixed stock fishery samples
- Decrease in available funding for staff
- Length of training time
- Ager turn-over



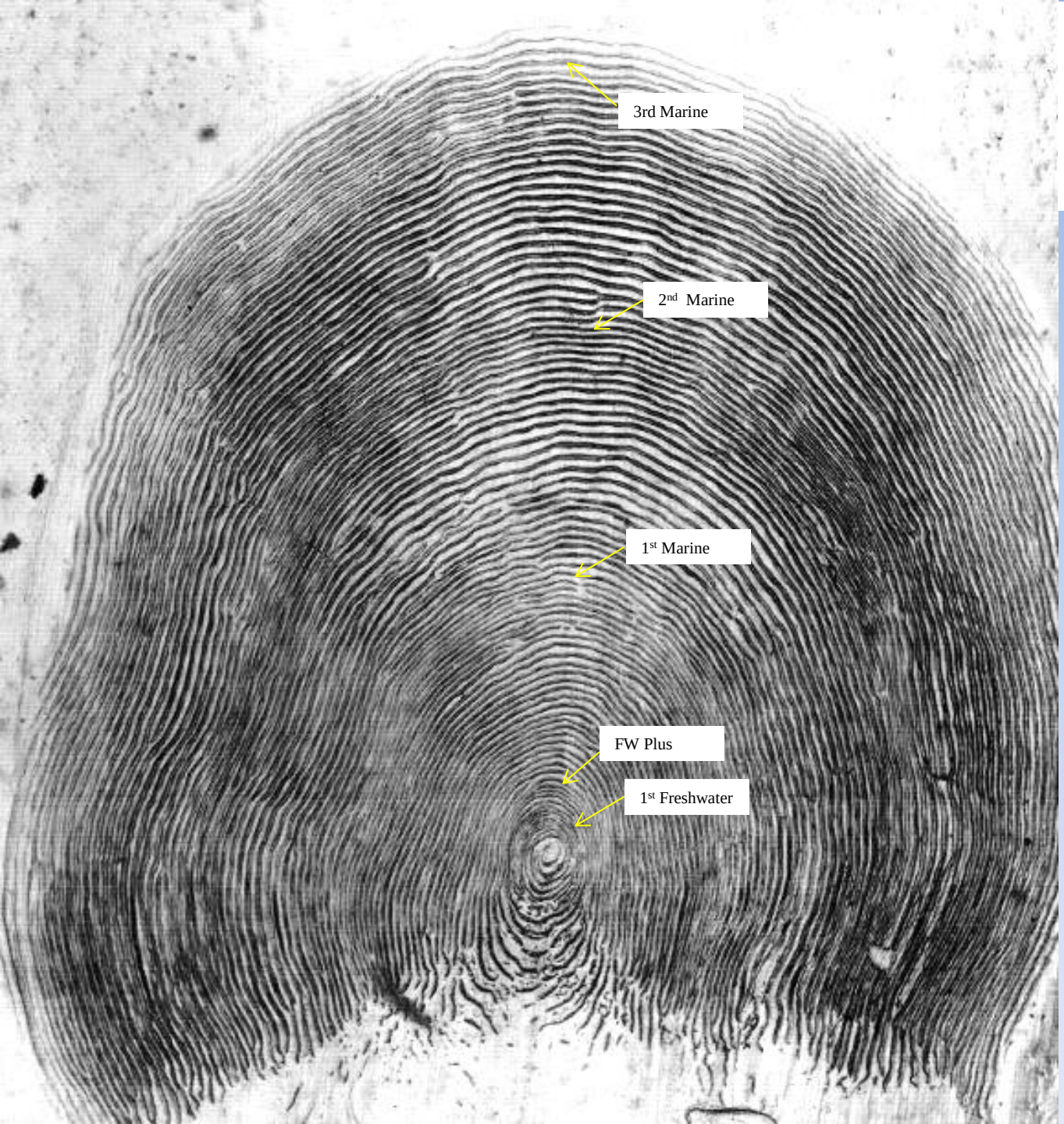
Sample location: Wrangell Commercial
Date collected: 5/14/13
Fish length: 815mm MEF
CWT Cinch # 537969
Age 1.4



Sample location: Wrangell Commercial
Date collected: 7/09/12
Fish length: 710mm MEF
CWT Cinch # 415342
Age 1.3



Sample location: Juneau Commercial
Date collected: 6/16/13
Fish length: 610mm MEF
CWT Cinch # 411386
Age 1.2



Sample location: Juneau Commercial
Date collected: 5/15/12
Fish length: 715mm MEF
CWT Cinch # 371027
Age 1.3