Errata

Erratum 1

***Fishery Bulletin* 100(2): 242.**

Kitada, Shuichi, and Kiyoshi Tezuka.

Longitudinal logbook survey designs for estimating recreational fishery catch, with application to ayu (*Plecoglosssus altivelis*)

Please note that in the printed copies some equations in Appendix 1 and Appendix 2 incorrectly show carets over the word "Cov."

Appendix 1 and Appendix 2 (page 242) should read as follows:

Appendix 1: The covariance of two estimators from sample means

First we consider the covariance of two total estimates. Let X_i and Y_i be simple random samples (i=1, . . . , n) from a population of size N with mean μ_x and μ_y, and $\overline{X}$ and $\overline{Y}$ be two sample means.

Cochran (1977, p .25) derived the covariance of two-sample mean, that is

$$\begin{aligned}\mathrm{Cov}(\overline{X},\overline{Y}) &= \frac{N-n}{N}\frac{1}{n}\mathrm{Cov}(X,Y) \\ &= \frac{N-n}{N^2 n}\sum_{i=1}^{N}(X_i-\mu_x)(Y_i-\mu_u).\end{aligned}$$

This is estimated by

$$\begin{aligned}\widehat{\mathrm{Cov}}(\overline{X},\overline{Y}) &= \frac{N-n}{N}\frac{1}{n}\widehat{\mathrm{Cov}}(X,Y) \\ &= \frac{N-n}{Nn(n-1)}\sum_{i=1}^{n}(X_i-\overline{X})(Y_i-\overline{Y}).\end{aligned}$$

The covariance between two population total estimators is defined by

$$\begin{aligned}\mathrm{Cov}(\hat{X},\hat{Y}) &= \mathrm{Cov}(N\overline{X},N\overline{Y}) = E(N\overline{X}-N\mu_x)(N\overline{Y}-N\mu_y) \\ &= N^2\mathrm{Cov}(\overline{X},\overline{Y}) = \frac{N(N-n)}{n}\mathrm{Cov}(X,Y).\end{aligned}$$

This is estimated by

$$\widehat{\mathrm{Cov}}(\hat{X},\hat{Y}) = \frac{N(N-n)}{n(n-1)}\sum_{i=1}^{n}(X_i-\overline{X})(Y_i-\overline{Y}).$$

For the monthly total catches, we get

$$\widehat{\mathrm{Cov}}(\hat{C}_k^{(s)},\hat{C}_{k'}^{(s)}) = \frac{N(N-n)}{n(n-1)}\sum_{i=1}^{n}(C_{ik}-\hat{\overline{C}}_k)(C_{ik'}-\hat{\overline{C}}_{k'}).$$

Appendix 2: Approximate covariance between $\hat{W}_k^{(s)}$ and $\hat{W}_{k'}^{(s)}$

Taylor's series of $\hat{W}_k$ with respect to the random variables is obtained by

$$\hat{W}_k \simeq C_k\overline{w}_k + \overline{w}_k(\hat{C}_k - C_k) + C_k(\hat{\overline{w}}_k - \overline{w}_k).$$

From Taylor's series (mentioned above), the approximate covariance is obtained.

$$\begin{aligned}\mathrm{Cov}(\hat{W}_k^{(s)},\hat{W}_{k'}^{(s)}) &= E(\hat{W}_k^{(s)}-W_k^{(s)})(\hat{W}_{k'}^{(s)}-W_{k'}^{(s)}) \\ &\simeq E\Big[\overline{w}_k(\hat{C}_k^{(s)}-C_k^{(s)}) + C_k^{(s)}(\hat{\overline{w}}_k-\overline{w}_k)\Big] \\ &\quad \Big[\overline{w}_{k'}(\hat{C}_{k'}^{(s)}-C_{k'}^{(s)}) + C_{k'}^{(s)}(\hat{\overline{w}}_{k'}-\overline{w}_{k'})\Big] \\ &= \overline{w}_k\overline{w}_{k'}\mathrm{Cov}(\hat{C}_k^{(s)},\hat{C}_{k'}^{(s)}) + \overline{w}_k C_{k'}^{(s)}\mathrm{Cov}(C_k^{(s)},\hat{\overline{w}}_{k'}) \\ &\quad + C_k^{(s)}\overline{w}_{k'}\mathrm{Cov}(\hat{\overline{w}}_k,\hat{C}_{k'}^{(s)}) + C_k^{(s)}C_{k'}^{(s)}\mathrm{Cov}(\hat{\overline{w}}_k,\hat{\overline{w}}_{k'}).\end{aligned}$$

Here $\hat{C}_{(.)}^{(s)}$ and $\hat{\overline{w}}_{(.)}$ are independent, and both w_k and $w_{k'}$ are estimated from different samples. Therefore Cov $(\hat{C}_k^{(s)},\hat{\overline{w}}_{k'}) = \mathrm{Cov}(\hat{\overline{w}}_k,\hat{C}_{k'}^{(s)}) = \mathrm{Cov}(\hat{\overline{w}}_k,\hat{\overline{w}}_{k'}) = 0$, then we get the covariance as only the first term.

Erratum 2

***Fishery Bulletin* 100 (2):258.**

McFee, Wayne E., and Sally R. Hopkins-Murphy

Bottlenose dolphin (*Tursiops truncatus*) strandings in South Carolina, 1992–1996

Last sentence of abstract should read as follows:

Incidents of bottlenose dolphin rope entanglements accounted for 16 of these cases.