

DAFTAR PUSTAKA

- Abdullah, F.N., Solichin, A. & Saputra, S.W. 2015. Aspek biologi dan tingkat pemanfaatan ikan kuniran (*Upeneus mollucensis*) yang di daratkan di tempat pelelangan ikan (TPI) Tawang Kabupaten Kendal Provinsi Jawa Tengah. Diponegoro. *Journal of Maqueres: Management of Aquatic Resources*, 4(1): 28-37. <Https://Ejournal3.Undip.Ac.Id/Index.Php/Maquares/Article/View/8505/8268>.
- Adarsh S, James RA. 2016. Morphometric role on length-length and length weight relationship of sulphur goatfish (*Upeneus sulphureus*, Cuvier 1829) from Mandapam Coast, Southern India. *International Journal of Advanced Research*. 4 (1): 825–839.
- Amrina, S. 2014. Studi identifikasi dan prevalensi cacing endoparasit ikan kuniran (*Upeneus sulphureus*) di tempat pelelangan ikan (TPI) Brondong Lamongan [Doctoral Dissertation]. Universitas Airlangga.
- Andiani, F.F. 2016. Dinamika populasi ikan kuniran (*Upeneus moluccensis*, Bleeker, 1855) di Perairan Selat Sunda. [Skripsi]. IPB. Bogor.
- Asriyana & Irawati, N. 2018. Makanan dan strategi pola makan ikan kuniran *Upeneus sulphureus*, Cuvier (1829) di perairan Teluk Kendari, Sulawesi Tenggara. *Jurnal Iktiologi Indonesia*, 18(1): 23-39. DOI: <Https://Doi.Org/10.32491/Jii.V18i1.372>.
- Asriyana, A., & Irawati, N. (2017). Growth Of Gostfish, *Upeneus sulphureus* in Kendari Bay, Southeast Sulawesi. *Aquasains*, 6(1): 541-554.
- Azizah IR, Rudiyantri S, Ghofar A. 2015. Komposisi hasil tangkapan cantrang dan aspek biologi ikan kuniran (*Upeneus sulphureus*) yang didaratkan di PPP Bajomulyo, Juwana. Dipenogoro Journal of Maqures. 4 (4): 33–41.
- Azizah, H., Boer, M., & Butet, N. A. 2019. Dinamika populasi ikan kuniran (*Upeneus sulphureus*, Cuvier 1829) di Selat Sunda, Banten. *Jurnal Pengelolaan Perikanan Tropis*, 3(2): 53-61.
- Barnham, C., & Baxter, A. 1998. Condition factor, k, for salmonid fish. *Fisheries notes.state of victoria: Department of Primary Industries*.
- Brossot, P., Fromentin, J. M., Ménard, F., Pernet, F., Bourdeix, J. H., Bigot, J. L., ... & Sariaux, C. 2015. Measurement and analysis of small pelagic fish condition: A suitable method for rapid evaluation in the field. *Journal of Experimental Marine Biology and Ecology*, 462: 90-97.
- Effendie MI. 1997. Biologi Perikanan. Yogyakarta: Yayasan Pustaka Nusantara.
- Effendie, M.I. 2002. Biologi perikanan. Yayasan Pustaka Nusatama. Yogyakarta,
- Froese, R. & D. Pauly. 2023. Fishbase. *Upeneus guttatus* (Day, 1868). Accessed Through: World Register of Marine Species at: <Https://Marinespecies.Org/Aphia.Php?P=Taxdetails&Id=1013371>

Froese, R. 2006. Cube law, Condition factor and weight length relationship: history, meta-analysis and recommendations. *Journal of Applied Ichthyology*, 22: 241-253.

Hafid, H., Edy, S. A., Fadillah, N., Hidayah, N., & Noor, R. J. 2023. PKM Kelompok Mutiara Nepo melalui perbaikan tata kelola, pemasaran, dan diversifikasi produk perikanan dengan pendekatan sibaliparri. Sulawesi Barat: *Jurnal Pengabdian Kepada Masyarakat*, 4(4): 2930-2937.

Handayani T. 2006. Aspek biologi ikan lais di Danau Lais. *Journal of Tropical Fisheries*. 1(1): 12-23.

Holden MJ, Raitt DFS (eds.). 1974. Manual of fisheries sciences. Methods of resource investigation and their application. FAO Fish. Tech. pap., (115).1: 214.

Husna, F. 2012. Reproduksi Ikan Kuniran (*Upeneus moluccensis* Bleeker 1855) dari Perairan Selat Sunda yang di daratkan di PPP Labuan Banten. [Skripsi]. Departemen Manajemen Sumberdaya Perairan. Fakultas Perikanan dan Ilmu Kelautan. Institut Pertanian Bogor.

Kembaren, D. D., & Ernawati, T. 2011. Beberapa aspek biologi ikan kuniran (*Upeneus sulphureus*) di perairan Tegal. *Bawal*, 3 (4): 261–267.

Koutrakis, E. T., & Tsikliras, A. C. 2003. Length-Weight relationships of fishes from three northern aegean estuarine systems (Greece). *Journal of Applied Ichthyology*, 19(4): 258–260

Lazuardani, V. 2017. Dinamika Status Stok Ikan Kuniran (*Upeneus sulphureus* Cuvier, 1829) di Perairan Selat Sunda. [Skripsi]. IPB. Bogor.

Lestari, P., Hudaidah, S. & Muhaemin, M. 2016. Pola pertumbuhan dan reproduksi ikan kuniran *Upeneus moluccensis* (Bleeker, 1855) di perairan Lampung. *E-Jurnal Rekayasa dan Teknologi Budidaya Perairan*. 5(1): 567-574.

Lloret-Lloret, E., Albo-Puigserver, M., Giménez, J., Navarro, J., Pennino, M. G., Steenbeek, J., ... & Coll, M. 2022. Small pelagic fish fitness relates to local environmental conditions and trophic variables. *Progress in Oceanography*, 202 : 102745.

Nurhayati, N., Fauziyah, F., & Bernas, S. M. 2016. Hubungan panjang-berat dan pola pertumbuhan ikan di muara Sungai Musi Kabupaten Banyuasin Sumatera Selatan. *Maspuri Journal*, 8(2): 111-118.

Nurulludin & Prihatiningsih. 2014. Parameter populasi dan tingkat eksplorasi ikan kuniran (*Upeneus sulphureus*) di laut Jawa. *Jurnal Bawal Widya Riset Perikanan Tangkap*. 6(3): 163–168. DOI: [Http://Dx.Doi.Org/10.15578/Bawal.6.3.2014.163-168](http://dx.doi.org/10.15578/Bawal.6.3.2014.163-168).

Omar, S. B. A. 2010. Aspek reproduksi ikan nilem , *Osteochilus vittatus* (Valenciennes, 1842) di Danau Sidenreng, Sulawesi Selatan. *Jurnal Iktiologi Indonesia*, 10 (November): 111–122.

Omar, S. B. A. 2013. Biologi Perikanan. Universitas Hasanuddin.

- Putera, M. L. A., & Setyobudiandi, I. 2019. Reproduction of Indian mackerel *Rastrelliger kanagurta* (Cuvier, 1816) relation to sea surface temperature in Sunda Strait Waters. *Journal of Tropical Fisheries Management*, 3(1): 30-37.
- Saadah. 2000. Beberapa aspek biologi ikan petek (*Leiognathus splendens*) di perairan Teluk Labuan, Jawa Barat [Skripsi]. Bogor (ID): Institut Pertanian Bogor.
- Saputra, S. W., Soedarsono, P., & Sulistyawati, G. A. 2009. Beberapa aspek biologi ikan kuniran (*Upeneus spp*) di perairan demak (Biological aspects of goatfish on Demak Waters). *Jurnal Saintek Perikanan*, 5(1): 1-6.
- Sinaga, I., Sihombing, N., Stinjak, L., & Siregar, T. 2022. Identifikasi jenis ikan yang berasosiasi pada padang lamun di Pantai Pandaratan Sarudik Tapanuli Tengah Sumatera Utara. Tapian Nauli: *Jurnal Penelitian Terapan Perikanan dan Kelautan*, 4(2): 18-35.
- Sukarniaty, S. (2016). Pengamatan isi perut ikan kuniran (*Upheneus sulphureus*) hasil tangkapan jaring arad di Perairan Demak, Jawa Tengah. *Buletin Teknik Litkayasa Sumber Daya dan Penangkapan*, 6(2): 83-85.
- Talakua, M., Suadi, S., Djumanto, D., & Setyobudi, E. 2023. length-weight relationship, condition factor, and reproductive aspects of *Lutke's halfbeak hemiramphus* Lutkei (Valenciennes, 1847) from Seram Sea, Maluku, Indonesia. *Biodiversitas Journal of Biological Diversity*, 24(12): 6574-6583.
- Triana, N. 2011. Pola pertumbuhan dan reproduksi ikan kuniran (*Upeneus moluccensis* Bleeker, 1885) di Perairan Teluk Jakarta, Jakarta Utara. [Skripsi]. Institut Pertanian Bogor. Bogor.
- Wujdi, A., Suwarso, S., & Wudianto, W. 2016. Biologi reproduksi dan musim pemijahan ikan lemuru (*Sardinella lemuru* Bleeker 1853) di Perairan Selat Bali. *BAWAL Widya Riset Perikanan Tangkap*, 5(1): 49-57.

LAMPIRAN

Lampiran 1. Analisis regresi hubungan panjang-bobot ikan kuniran, *Upeneus guttatus* (Day, 1868), jantan bulan September 2023

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.8668
R Square	0.7513
Adjusted R Square	0.7501
Standard Error	0.0682
Observations	199

ANOVA

	df	SS	MS	F	Significance F
Regression	1	2.7652	2.7652	595.2488	1.92E-61
Residual	197	0.9151	0.0046		
Total	198	3.6802993			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-4.4629	0.2391	18.6691	0.0000	-4.9343	-3.9915	-4.9343	-3.9915
X Variable 1	2.7817	0.1140	24.3977	0.0000	2.5569	3.0066	2.5569	3.0066

Lampiran 2. Analisis regresi hubungan panjang-bobot ikan kuniran, *Upeneus guttatus* (Day, 1868), betina bulan September 2023

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.9635
R Square	0.9283
Adjusted R Square	0.9268
Standard Error	0.0370
Observations	51

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.8700	0.8700	634.0015	0.0000
Residual	49	0.0672	0.0014		
Total	50	0.9373			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-4.9929	0.2518	19.8323	0.0000	-5.4988	4.4870	-5.4988	-4.4870
X Variable 1	3.0359	0.1206	25.1794	0.0000	2.7936	3.2782	2.7936	3.2782

Lampiran 3. Uji statistik koefisien regresi hubungan panjang-bobot ikan kuniran, *Upeneus guttatus* (Day,1868), jantan dan betina bulan September 2023

$$SE_{(b_1 - b_2)} = \sqrt{(s_{b_1})^2 + (s_{b_2})^2}$$

$$\begin{aligned} SE_{(b_1 - b_2)} &= \sqrt{(0.1140)^2 + (0.1206)^2} \\ &= 0.1659 \end{aligned}$$

$$t_{\text{hitung}} = \frac{|b_1 - b_2|}{SE_{(b_1 - b_2)}}$$

$$\begin{aligned} t_{\text{hitung}} &= \frac{|2.7817 - 3.0359|}{0.1659} \\ &= -1.5317 \end{aligned}$$

$$Db = n - 4$$

$$= 250 - 4$$

$$= 246$$

$$t_{0,05(137)} = 1.9697(T_{\text{tabel}})$$

Karena $t_{\text{hitung}} < t_{\text{tabel}}$ maka koefisien regresi hubungan panjang-bobot ikan kuniran jantan dan betina tidak berbeda nyata sehingga data digabung.

Lampiran 4. Analisis regresi hubungan panjang-bobot ikan kuniran, *Upeneus guttatus* (Day, 1868), jantan bulan Oktober 2023

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.8535
R Square	0.7285
Adjusted R Square	0.7273
Standard Error	0.0519
Observations	222

ANOVA

	df	SS	MS	F	Significance F
Regression	1	1.5879	1.5879	590.2735	0.0000
Residual	220	0.5918	0.0027		
Total	221	2.1797			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-4.2800	0.2266	-18.8914	0.0000	-4.7265	-3.8335	-4.7265	-3.8335
X Variable 1	2.6727	0.1100	24.2955	0.0000	2.4559	2.8895	2.4559	2.8895

Lampiran 5. Analisis regresi hubungan panjang-bobot ikan kuniran, *Upeneus guttatus* (Day, 1868), betina bulan Oktober 2023

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.8815
R Square	0.7771
Adjusted R Square	0.7685
Standard Error	0.0408
Observations	28

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.1508	0.1508	90.6279	0.0000
Residual	26	0.0433	0.0017		
Total	27	0.1941			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-3.8288	0.5365	-7.1370	0.0000	-4.9315	-2.7260	-4.9315	-2.7260
X Variable 1	2.4698	0.2594	9.5199	0.0000	1.9365	3.0031	1.9365	3.0031

Lampiran 6. Uji statistik koefisien regresi hubungan panjang-bobot ikan kuniran, *Upeneus guttatus* (Day,1868), jantan dan betina bulan Oktober 2023

$$SE_{(b_1 - b_2)} = \sqrt{(s_{b_1})^2 + (s_{b_2})^2}$$

$$\begin{aligned} SE_{(b_1 - b_2)} &= \sqrt{(0.1100)^2 + (0.2594)^2} \\ &= 0.2818 \end{aligned}$$

$$t_{\text{hitung}} = \frac{|b_1 - b_2|}{SE_{(b_1 - b_2)}}$$

$$\begin{aligned} t_{\text{hitung}} &= \frac{|2.6727|}{0.2818} \\ &= 0.7199 \end{aligned}$$

$$\begin{aligned} Db &= n-4 \\ &= 250-4 \\ &= 246 \end{aligned}$$

$$t_{0.05(137)} = 1.9696 \quad (T_{\text{tabel}})$$

Karena $t_{\text{hitung}} < t_{\text{tabel}}$ maka koefisien regresi hubungan panjang-bobot ikan kuniran jantan dan betina tidak berbeda nyata sehingga data digabung.

Lampiran 7. Analisis regresi hubungan panjang-bobot ikan kuniran, *Upeneus guttatus* (Day, 1868), jantan bulan November 2023

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.8252
R Square	0.6809
Adjusted R Square	0.6795
Standard Error	0.0478
Observations	216

ANOVA

	df	SS	MS	F	Significance F
Regression	1	1.0441	1.0441	456.7242	0.0000
Residual	214	0.4892	0.0023		
Total	215	1.5333			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-4.3014	0.2591	16.6015	0.0000	-4.8121	3.7907	-4.8121	-3.7907
X Variable 1	2.6942	0.1261	21.3711	0.0000	2.4457	2.9427	2.4457	2.9427

Lampiran 8. Analisis regresi hubungan panjang-bobot ikan kuniran, *Upeneus guttatus* (Day,1868), jantan dan betina bulan November 2023

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.8352
R Square	0.6976
Adjusted R Square	0.6964
Standard Error	0.0472
Observations	250

ANOVA

	df	SS	MS	F	Significance F
Regression	1	1.2768	1.2768	572.0752	0.0000
Residual	248	0.5535	0.0022		
Total	249	1.8303			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-4.3908	0.2355	18.6446	0.0000	-4.8546	3.9270	-4.8546	-3.9270
X Variable 1	2.7398	0.1145	23.9181	0.0000	2.5142	2.9654	2.5142	2.9654

Lampiran 9. Uji statistik koefisien regresi hubungan panjang-bobot ikan kuniran, *Upeneus guttatus* (Day,1868), jantan dan betina bulan Novembee 2023

$$SE_{(b_1 - b_2)} = \sqrt{(s_{b_1})^2 + (s_{b_2})^2}$$

$$\begin{aligned} SE_{(b_1 - b_2)} &= \sqrt{(0.1261)^2 + (0.2101)^2} \\ &= 0.2450 \end{aligned}$$

$$\begin{aligned} t_{\text{hitung}} &= \frac{|b_1 - b_2|}{SE_{(b_1 - b_2)}} \\ t_{\text{hitung}} &= \frac{|2.6942 - 2.8154|}{0.2450} \\ &= 0.4945 \end{aligned}$$

$$\begin{aligned} Db &= n-4 \\ &= 250-4 \\ &= 246 \end{aligned}$$

$$t_{0,05(137)} = 1.9696 \quad (T_{\text{tabel}})$$

Karena $t_{\text{hitung}} < t_{\text{tabel}}$ maka koefisien regresi hubungan panjang-bobot ikan kuniran jantan dan betina tidak berbeda nyata sehingga data digabung.

Lampiran 10. Analisis regresi hubungan panjang-bobot ikan kuniran, *Upeneus guttatus* (Day,1868), jantan dan betina bulan September 2023

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.9424
R Square	0.8881
Adjusted R Square	0.8877
Standard Error	0.0432
Observations	250

ANOVA

	df	SS	MS	F	Significance F
Regression	1.0000	3.6733	3.6733	1968.9223	0.0000
Residual	248.0000	0.4627	0.0019		
Total	249.0000	4.1359			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-4.5922	0.1342	34.2251	0.0000	-4.8564	4.3279	-4.8564	-4.3279
X Variable 1	2.8420	0.0640	44.3725	0.0000	2.7158	2.9681	2.7158	2.9681

Lampiran 11. Analisis regresi hubungan panjang-bobot ikan kuniran, *Upeneus guttatus* (Day,1868), jantan dan betina bulan Oktober 2023

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.8543
R Square	0.7298
Adjusted R Square	0.7287
Standard Error	0.0516
Observations	250

ANOVA

	df	SS	MS	F	Significance F
Regression	1	1.7854	1.7854	669.7218	0.0000
Residual	248	0.6612	0.0027		
Total	249	2.4466			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-4.2895	0.2133	20.1106	0.0000	-4.7096	3.8694	-4.7096	-3.8694
X Variable 1	2.6791	0.1035	25.8790	0.0000	2.4752	2.8830	2.4752	2.8830

Lampiran 9. Analisis regresi hubungan panjang-bobot ikan kuniran, *Upeneus guttatus* (Day,1868), jantan dan betina bulan November 2023

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.8352
R Square	0.6976
Adjusted R Square	0.6964
Standard Error	0.0472
Observations	250

ANOVA

	df	SS	MS	F	Significance F
Regression	1	1.2768	1.2768	572.0752	0.0000
Residual	248	0.5535	0.0022		
Total	249	1.8303			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-4.3908	0.2355	18.6446	0.0000	-4.8546	3.9270	-4.8546	-3.9270
X Variable 1	2.7398	0.1145	23.9181	0.0000	2.5142	2.9654	2.5142	2.9654