

KESIMPULAN DAN SARAN

5.1 Kesimpulan

Berdasarkan hasil pengamatan dari semua parameter dapat disimpulkan bahwa penurunan salinitas berpengaruh signifikan terhadap pertumbuhan berat mutlak, panjang mutlak dan laju pertumbuhan berat spesifik (SGR). Dimana didapatkan nilai sig ($Pvalue < 0,05$). Sedangkan penurunan salinitas terhadap Tingkat kelangsungan hidup, laju konsumsi oksigen dan rasio konversi pakan tidak memiliki pengaruh yang signifikan, dimana nilai sig ($Pvalue > 0,05$).

5.2 Saran

Disarankan agar pemeliharaan benih ikan kakap putih dilakukan pada kisaran salinitas 11–19 ppt karena kondisi ini mendukung pertumbuhan optimal serta kelangsungan hidup yang tinggi. Pada rentang ini, beban osmoregulasi lebih rendah sehingga energi metabolik dapat lebih banyak dialokasikan untuk pertumbuhan.

DAFTAR PUSTAKA

- Aeni, Nurul, and Wastu Ayu Diamahesa. 2024. "Evaluation of Common Carp (*Cyprinus carpio*) Cultivation Techniques at Balai Benih Ikan (BBI) Lingsar, West Nusa Tenggara." *Journal of Fish Health* 4(1):1–8. doi: 10.29303/jfh.v4i1.4416.
- Almufaridz, Prayogo Khanua, Mila Kusumawardani, and Rachmad Saptono. 2021. "Telecontrolling Smart Fish Feeder Berbasis Mikrokontroler Dan Aplikasi Android." *Jurnal Jartel Jurnal Jaringan Telekomunikasi* 11(4):228–37. doi: 10.33795/jartel.v11i4.247.
- Ashari, Fahrurrozi, and Linayati- Linayati. 2022. "Pengaruh Penambahan Tepung Kunyit (*Curcuma longa* linn.) Terhadap Pertumbuhan Dan Rasio Konversi Pakan Ikan Kakap Putih (*Lates Calcarifer*, Bloch)." *Sains Akuakultur Tropis* 6(2):266–72. doi: 10.14710/sat.v6i2.14884.
- Astuti, Endang Puji, Qurrota A'yun, Arida Vitasari, and Putri Desi Wulan Sari. 2023. "Kajian Teknis Budidaya Ikan Kakap Putih (*Lates calcarifer*) Di Balai Perikanan Budidaya Air Payau (Bpbap) Situbondo, Kabupaten Situbondo, Jawa Timur." *Jurnal Perikanan Pantura (JPP)* 6(1):269. doi: 10.30587/jpp.v6i1.5025.
- Azodi, Maryam, Mahmoud Nafisi Bahabadi, Ahmad Ghasemi, Vahid Morshedi, Mansour Torfi Mozanzadeh, Raheleh Shahraki, Omid Khademzadeh, Shirin Hamed, and Sakineh Avizhgan. 2021. "Effects of Salinity on Gills' Chloride Cells, Stress Indices, and Gene Expression of Asian Seabass (*Lates calcarifer*, Bloch, 1790)." *Fish Physiology and Biochemistry* 47(6):2027–39. doi: 10.1007/s10695-021-01024-6.
- Badan Standarisasi Nasional. 2014. "SNI 6145.3:2020 Ikan Kakap Putih (*Lates calcarifer*, Bloch) Bagian 3 Produksi Induk." 1–12.
- Bœuf, Gilles, and Patrick Payan. 2020. "How Should Salinity Influence Fish Growth " 0456 (March). doi: 10.1016/S1532-0456(01)00268-X.
- Boyd, By Claude E. 2023. "A Low Feed Conversion Ratio Is the Primary Indicator of e Cient Aquaculture." (December 2021):1–5.
- Boyd, Claude. 2018. "Water Temperature in Aquaculture." *Global Aquaculture Advocate* 1–5.
- Burhanuddin, Andi, and Natsir M. Nessa. 2018. *Kelautan Dan Perikanan*. Vol. 8.
- Dharma, Tony Setia. 2015. "The Mass Seed Production Of Golden Trevally Fish (*Gnathanodon speciosus* forsskal) With Different Feed." *Jurnal Ilmu Dan Teknologi Kelautan Tropis* 6(2):383–90. doi: 10.29244/jitkt.v6i2.9014.
- Enta Heri Yurisma, Nurlita Abdulgani, dan Gunanti Mahasri. 2013. "Adoc.Pub_Jurnal-

Sains-Dan-Seni-Vol1-No1-2013-1-4-1.” 1(1):1–4.

- Folorunso, Lateef, Benjamin Emikpe, Eyiunmi Falaye, and Akeem Babatunde Dauda. 2017. “Evaluating Feed Intake of Fishes in Aquaculture Nutrition Experiments with Due Consideration of Mortality and Fish Survival Evaluating Feed Intake of Fishes in Aquaculture Nutrition Experiments with Due Consideration of Mortality and Fish Survival.” (June).
- Ghosh, Shubhadeep, Sekar Megarajan, Ritesh Ranjan, Biswajit Dash, Phalguni Pattnaik, Loveson Edward, and Biji Xavier. 2016. “Growth Performance of Asian Seabass *Lates calcarifer* (Bloch, 1790) Stocked at Varying Densities in Floating Cages in Godavari Estuary, Andhra Pradesh, India.” *Indian Journal of Fisheries* 63(3):3–7. doi: 10.21077/ijf.2016.63.3.49095-23.
- Godoy-Olmos, Sergio, Ignacio Jauralde, Raquel Monge-Ortiz, María C. Milián-Sorribes, Miguel Jover-Cerdá, Ana Tomás-Vidal, and Silvia Martínez-Llorens. 2022. “Influence of Diet and Feeding Strategy on the Performance of Nitrifying Trickling Filter, Oxygen Consumption and Ammonia Excretion of Gilthead Sea Bream (*Sparus aurata*) Raised in Recirculating Aquaculture Systems.” *Aquaculture International* 30(2):581–606. doi: 10.1007/s10499-021-00821-3.
- Gudmundsson, Eyjolfur, Frank Asche, and Max Nielsen. 2006. “Revenue Distribution Through The Seafood Value Chain.” *FAO Fisheries Circular* 1019(1019):42.
- Guenard, Rebecca. 2020. *Poisson from a Petri Dish*. Vol. 32.
- Hassan, H. U., Q. M. Ali, A. E. Ahmed, K. Gabol, A. A. Swelum, Z. Masood, S. Mushtaq, Saeed, Y. Gul, S. Rizwan, T. Zulfiqar, and M. A. M. Siddique. 2024. “Growth Performance and Survivability of the Asian Seabass *Lates calcarifer* (Bloch, 1790) Reared under Hyper-Saline, Hypo-Saline and Freshwater Environments in a Closed Aquaculture System.” *Brazilian Journal of Biology* 84:1–8. doi: 10.1590/1519-6984.254161.
- Hassan, Habib Ul. 2021. “Growth Performance and Survivability of the Asian Seabass *Lates calcarifer* Reared Under Hyper- Saline , Hypo-Saline and Freshwater Environments in a Closed Aquaculture System.” *Research Square* 2021:211072.
- Hidayat, A., A. Tumulyadi, and Rihmi M. K. 2022. “Kajian Tingkah Laku Ikan Kakap Putih Di Balai Benih Ikan Laut Pulau Tidung, Kepulauan Seribu.” *Prosiding Seminar ...* 5587:1–7.
- Hsieh, Chi Yuan, Tzu Yen Liu, Yung Che Tseng, Kotaro Shirai, Pei Ling Wang, Guan Chung Wu, and Ming Tsung Chung. 2025. “Estimation of Lifelong Metabolic Rates in Marine Fish: A Combination of Oxygen Consumption Measurements and ¹³C Metabolic Proxy Derived from Vertebral Structural Carbonates.” *Limnology and Oceanography Letters* 10(3):403–11. doi: 10.1002/lol2.70009.
- Imani, Dina Nur, Limin Santoso, and Supriya Supriya. 2021. “Peforma Pertumbuhan Ikan Kakap Putih (*Lates calcarifer*) Pada Fase Pembesaran Yang Diberi Pakan

- Dengan Penambahan Lisin Berbeda.” *Journal of Aquatropica Asia* 6(1):13–19. doi: 10.33019/aquatropica.v6i1.2467.
- Kandida, P.F., Samidjan, I., dan Rachmawati, D. 2013. “Pengaruh Perbedaan Protein Pakan Dengan Penambahan Protein Sel Tunggal Dari Produksi MSG Terhadap Pertumbuhan Nila (*Oreochromis sp.*) Pada Salinitas 15ppt Ppt.” *Journal of Aquaculture Management and Technology* 2(1):13–24.
- Khalil, Munawar, Ainol Mardhiah, and Rachmawaty Rusydi. 2015. “Pengaruh Penurunan Salinitas Terhadap Laju Konsumsi Oksigen Dan Pertumbuhan Ikan Kerapu Lumpur (*Epinephelus tauvina*).” *Acta Aquatica: Aquatic Sciences Journal* 2(2):114. doi: 10.29103/aa.v2i2.720.
- Khan, Md Shahzad Kuli, Krishna R. Salin, Amaratne Yakupitiyage, and Mohammad Abdul Momin Siddique. 2021. “Effect of Stocking Densities on the Growth Performance, Cannibalism and Survival of Asian Seabass *Lates Calcarifer* (Bloch, 1790) Fry in Different Nursery Rearing System.” *Aquaculture Research* 52(11):5332–39. doi: 10.1111/are.15403.
- Lestari, Sintia Novia, Farida Nur Rachmawati, and Untung Susilo. 2017. “Perubahan Kadar Protein Dan Status Lipostatik Ikan Sidat, *Anguilla bicolor*, Stadia Silver Yang Dipelihara Pada Salinitas Yang Berbeda.” *Scripta Biologica* 4(1):41. doi: 10.20884/1.sb.2017.4.1.384.
- Liu, Jianyi, Tongxi Ai, Jun Yang, Meijuan Shang, Keji Jiang, Yane Yin, Lei Gao, Wei Jiang, Na Zhao, Jianfeng Ju, and Bo Qin. 2024. “Effects of Salinity on Growth, Digestive Enzyme Activity, and Antioxidant Capacity of Spotbanded Scat (*Selenotoca multifasciata*) Juveniles.” *Fishes* 9(8):1–13. doi: 10.3390/fishes9080309.
- Lotfy, Ayman M., Ashraf I. G. Elhetawy, Mahmoud M. Habiba, Sherine R. Ahmed, Amr M. Helal, and Mohamed M. Abdel-Rahim. 2023. “Growth, Feed Utilization, Blood Biochemical Variables, Immunity, Histology of the Intestine, Gills and Liver Tissues, and Carcass Composition of the European Seabass (*Dicentrarchus labrax*) Raised Using Different Water Sources.” *Egyptian Journal of Aquatic Biology and Fisheries* 27(3):687–711. doi: 10.21608/ejabf.2023.305523.
- M. Ainul Yaqin^{1*}, Limin Santoso¹, dan Suryadi Saputra². 2018. “Pengaruh Pemberian Pakan Dengan Kadar Protein Berbeda Terhadap Pertumbuhan Ikan Kakap Putih (*Lates calcarifer*) yang Dipelihara Di Bak Terkontrol.” *Berkala Perikanan Terubuk* 46(2):89. doi: 10.31258/terubuk.46.2.89-96.
- Manijo, Ateng Supriatna, and Lilik Sulistyowati. 2025. “Growth and Survival of Seabass (*Lates calcarifer*) Cultured under Different Salinity Levels and Tank Colours.” *Journal of Aquaculture Science* 10(1):17–23. doi: 10.20473/joas.v10i1.66706.
- Mariu, Amna, Ahmad Manan Mustafa Chatha, Saima Naz, Muhammad Farhan Khan,

- Warda Safdar, and Iqra Ashraf. 2023. "Effect of Temperature, PH, Salinity and Dissolved Oxygen on Fishes." *Journal of Zoology and Systematics* 1(2):1–12. doi: 10.56946/jzs.v1i2.198.
- Masyahoro, A., and Moh Arif Budias Setiawan. 2023. "Pertumbuhan Benih Ikan Kakap Putih (*Lates calcarifer*, bloch 1790) Pada Berbagai Salinitas Dan Dosis Pakan Limbah Kepala Udang Dalam Wadah Terkontrol." *Jurnal Ilmiah AgriSains* 24(2):103–13. doi: 10.22487/jiagrisains.v24i2.2023.103-113.
- Maulana, Reza, Sutrisno Anggoro, and Diana Rachmawati. 2013. "Pola Osmoregulasi, Pertumbuhan Dan Kelulushidupan Keong Macan (*Babylonia spirata* L) Pada Media Dengan Salinitas Berbeda." *Management of Aquatic Resources Journal (MAQUARES)* 2(3):233–42. doi: 10.14710/marj.v2i3.4220.
- Mayda, Luh, Ruspita Sari, Gede Ari Yudasmar, Ida Bagus, Jelantik Swasta, Prodi Akuakultur, Jurusan Biologi, and Fakultas Matematika. 2023. "Tingkat Konsumsi Oksigen Benih Ikan Mas Koki (*Carassius auratus*) Pada Volume Air Yang Berbeda." 4(3):175–85.
- Mega Novia Putri1*, Ronal Kurniawan1, M. Riswan1. 2024. "South East Asian Aquaculture (SEAQU) <https://Journal.Stedca.Com/Index.Php/Seaqu>." *South East Asian Aquaculture* 2(1):57–63.
- Mkulo, Evodia Moses, Lukman Iddrisu, Mpwaga Alatwinusa Yohana, Anna Zheng, Jiahao Zhong, Minxuan Jin, Felix Danso, Linjuan Wang, Huijuan Zhang, Baogui Tang, Hui Zhou, Kwaku Amoah, Jiansheng Huang, Bei Wang, and Zhongliang Wang. 2025. "Exploring Salinity Adaptation in Teleost Fish, Focusing on Omics Perspectives on Osmoregulation and Gut Microbiota." *Frontiers in Marine Science* 12(May):1–21. doi: 10.3389/fmars.2025.1559871.
- Mote, Norce. 2017. "Biodiversity Of Ichtyofauna In Estuary Kumbe River, Merauke Regency." *Al-Kauniah: Journal of Biology* 10(1):26–34.
- Mudiarti, Luky, Nurcahyo Kursistyanto, Noor Nailie Azzat, and Budi Lofian. 2023. "Pengaruh Padat Penebaran Terhadap Pertumbuhan Dan Kelulushidupan Benih Ikan Kerapu Bebek (*Cromileptes altiveles*) Stadia D60-D120." *Jurnal Disprotek* 14(1):42–48. doi: 10.34001/jdpt.v14i1.4405.
- Nawir, Fitria, Asep Akmal Aonullah, and Yunarty Yunarty. 2023. "Aplikasi Padat Tebar Berbeda Pada Pembesaran Ikan Sidat (*Anguilla bicolor*) Dengan Sistem Air Mengalir." *Media Akuakultur* 18(1):9. doi: 10.15578/ma.18.1.2023.9-14.
- Nurhayati, Tati, Ella Salamah, and Roni Nugraha. 2014. "Optimaization Process Production Hydrolysates of Protein Barramudi Viscera." *Jurnal Pengolahan Hasil Perikanan* 17(1):42–52.
- Palupi Sihalocho, Irsan, Henny Syawal, Muhammad Aidil Huda, Program Studi Akuakultur, Sekolah Tinggi Perikanan dan Kelautan Matauli, and Fakultas Perikanan dan Kelautan. 2024. "Pengaruh Salinitas Yang Berbeda Terhadap

- Pertumbuhan Benih Ikan Nila (*Oreochromis niloticus*) Effect of Different Salinities on Growth of Tila Fish Seeds (*Oreochromis Niloticus*).” *Agustus* 2024(2):27–38.
- Pamungkas, Wahyu. 2012. “980-1946-1-Sm.” 7.
- Patriono, Enggar, Endri Junaidi, and Asri Setiorini. 2009. “Pengaruh Pemotongan Sirip Terhadap Pertumbuhan Panjang Tubuh Ikan Mas (*Cyprinus Carpio L.*)” *Jurnal Penelitian Sains* 09(Khusus):63–66.
- Patty, Simon I., and Rikardo Huwae. 2023. “Temperature, Salinity and Dissolved Oxygen West and East Seasons in the Waters of Amurang Bay, North Sulawesi.” *Jurnal Ilmiah PLATAX* 11(1):196–205. doi: 10.35800/jip.v11i1.46651.
- Prajayati, Vini Taru, Muhammad Akbarurrasyid, Dinno Sudinno, Ronggo Wicaksono, and Sri Budiani Samsuharapan. 2024. “Pengaruh Penambahan Larutan Kencur (*Kaempferia Galanga*) Pada Pakan Komersial Terhadap Pertumbuhan Dan Kelulushidupan Benih Ikan Lele (*Clarias sp.*)” *Jurnal Salamata* 5(2):42. doi: 10.15578/salamata.v5i2.12828.
- Prakoso, Vitas Atmadi, Jun Hyung Ryu, and Jin Chang. 2016. “Ritme Harian Konsumsi Oksigen Induk Ikan Mas *Cyprinus carpio* Dengan Fotoperiode Kontinyu 24 Jam.” 1–7.
- Prasetio, Eko, Eka Indah Raharjo, and . Ispandi. 2017. “Pengaruh Padat Tebar Terhadap Pertumbuhan Dan Kelangsungan Hidup Benih Ikan Jelawat (*Leptobarbus hoeveni*).” *Jurnal Ruaya : Jurnal Penelitian Dan Kajian Ilmu Perikanan Dan Kelautan* 4(1):54–59. doi: 10.29406/rya.v4i1.722.
- rayes 2013. “Pengaruh Perubahan Salinitas Terhadap Pertumbuhan Dan Sintasan Ikan Kakap Putih (*Lates calcarifer bloch*).” *Jurnal KELAUTAN* 16(1):47–56.
- Saghafiankho, Soheila, Amir Parviz Salati, Vahid Morshedi, Ahmad Ghasemi, and Mahmood Nafisi Bahabadi. 2020. “Effects of Different Levels of Salinity on NKA and NKCC Expression in Asian Sea Bass (*Lates calcarifer*).” *Turkish Journal of Fisheries and Aquatic Sciences* 21(1):01–07. doi: 10.4194/1303-2712-v21_1_01.
- Sahputra, Indra, Munawwar Khalil, and Zulfikar Zulfikar. 2017. “Pemberian Jenis Pakan Yang Berbeda Terhadap Pertumbuhan Dan Kelangsungan Hidup Benih Ikan Kakap Putih (*Lates calcalifer, Bloch*).” *Acta Aquatica: Aquatic Sciences Journal* 4(2):65. doi: 10.29103/aa.v4i2.305.
- Seto Windarto*), Sri Hastuti, Subandiyono, Ristiawan Agung Nugroho, Sarjito. 2018. “Jurnal Sains Akuakultur Tropis.” *Jurnal Sains Akuakultur Tropis* 2:38–48.
- Studi, Program, Ilmu Kelautan, and Fmipa Universitas. 2013. “Laju Pertumbuhan Dan Tingkat Kelangsungan Hidup Benih Kakap Putih (*Lates calcarifer* , *Bloch*) Dengan Pemberian Pakan Yang Berbeda Berian Jaya *, Fitri Agustriani Dan Isnaini.” 5(1):56–63.

- Summerfelt, Robert C. 2015. "Water Quality Considerations For Aquaculture." (January 1998).
- Sundell, Erika, Daniel Morgenroth, Andreas Ekström, Jeroen Brijs, Michael Axelsson, Albin Gräns, and Erik Sandblom. 2021. "Energetic Savings and Cardiovascular Dynamics of a Marine Euryhaline Fish (*Myoxocephalus scorpius*) in Reduced Salinity." *Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology* 191(2):301–11. doi: 10.1007/s00360-020-01336-8.
- Supryady, Ardana Kurniaji*, Muhammad Syahrir, Budiyati, Nurul Hikmah. 2021. "Derajat Pembuahan Dan Penetasan Telur, Pertumbuhan Dan Kelangsungan Hidupan Larva Ikan Kakap Putih (*Lates calcarifer*) Fertilization Rate and Hatching Rate, Growth and Survival Rate of Larvae White Snapper Fish (*Lates Calcalifer*)." *Jurnal Salamata* 3(1):7–12.
- urnawati et al., 2020. 2020. "Pertumbuhan Dan Kelangsungan Hidup Benih Ikan Kakap Putih *Lates calcarifer*, Bloch Dengan Pemberian Dosis Probiotik Yang Berbeda." *Jurnal Ruaya : Jurnal Penelitian Dan Kajian Ilmu Perikanan Dan Kelautan* 8(1):38–44. doi: 10.29406/jr.v8i1.1449.
- Torres-rodríguez, Miguel, Gonzalo Martínez-rodríguez, Leandro Rodríguez-viera, Juan Miguel Mancera, and Juan Antonio Martos-sitcha. 2025. "Physiological Effects of Water Salinity on Metabolism and Fatty Acid Biosynthesis in the Model Fish *Fundulus heteroclitus*." 1–21.
- Utomo, Priyo Bambang Nur, Susan, and Mia and Setiawati. 2013. "Peran Tepung Ikan Dari Berbagai Bahan Baku Terhadap Pertumbuhan Lele Sangkuriang *Clarias* sp." *Jurnal Altikultur Indonesia* 12(2):158–68.
- Waheed, Ahmad, Hina Naz, Muhammad Wajid, and Muhammad Saleem Khan. 2023. "Impact of Isolation on Growth Performance, Behavior, and Stress Responses in Nile Tilapia, *Oreochromis niloticus*." *Latin American Journal of Aquatic Research* 51(4):483–90. doi: 10.3856/vol51-issue4-fulltext-3019.
- Wahyu, Wahyu, Eddy Supriyono, Nirmala Kukuh, and Enang Harris. 2015. "Pengaruh Kepadatan Ikan Selama Pengangkutan Terhadap Gambaran Darah, PH Darah, Dan Kelangsungan Hidup Benih Ikan Gabus." *Jurnal Iktiologi Indonesia* 15(2):165–77.
- Wigati, Laras, Titik Susilowati, and Rosa Amalia. 2022. "Pengaruh Persentase Pergantian Air Terhadap Pertumbuhan Dan Kelulushidupan Ikan Rainbow (*Melanotaenia boesmani*)." *Sains Akuakultur Tropis : Indonesian Journal of Tropical Aquaculture* 7(1):39–44. doi: 10.14710/sat.v7i1.12638.
- Wijaya, Dani, Akbar Abdurrahman Mahfudz, Yar Johan, Tiya Widi, Ali Muqsit, Nur Lina, Maratana Nabiu, Ana Ariasari, An Nisa, Nurul Suci, Prodi Ilmu Kelautan, Jurusan Peternakan, Fakultas Pertanian, Kandang Limun, Provinsi Bengkulu, Balai Besar, Perikanan Budidaya, Laut Lampung, and Provinsi Lampung. 2024.

- “Teknik Pembenihan Ikan Kakap Putih (*Lates calcarifer*) (Studi Kasus : Balai Besar Perikanan Budidaya Laut Lampung).” (September 2023):29–51.
- Xu, Ruijie, Shouguo Yang, Yiyu Li, Xuguang Zhang, and Xianming Tang. 2025. “Boat Noise Increases the Oxygen Consumption Rate of the Captive Juvenile Large Yellow croaker, *Larimichthys Crocea*.” *Animals* 15(5):1–13. doi: 10.3390/ani15050714.
- Xu, Xiuwen, Zonghang Zhang, Haoyu Guo, Jianguang Qin, and Xiumei Zhang. 2020. “Changes in Aggressive Behavior, Cortisol and Brain Monoamines during the Formation of Social Hierarchy in Black Rockfish (*Sebastes schlegelii*).” *Animals* 10(12):1–12. doi: 10.3390/ani10122357.
- Zhang, Zonghang, Yiqiu Fu, Hancheng Zhao, and Xiumei Zhang. 2022. “Social Enrichment Affects Fish Growth and Aggression Depending on Fish Species: Applications for Aquaculture.” *Frontiers in Marine Science* 9(October):1–11. doi: 10.3389/fmars.2022.1011780.
- Zulfikar, Zulfikar, Muzahar Ahmad Zawawi, Shavika Miranti, T. Said Raza’i, Dwi Septiani Putri, and Tri Yulianto. 2024. “Performa Pertumbuhan Ikan Kakap Putih (*Lates calcarifer*) Yang Diberi Pakan Ikan Tamban (*Sardinella Abella*) Segar Dengan Rasio Berbeda Terhadap Biomassa.” *Jurnal Riset Akuakultur* 18(1):61. doi: 10.15578/jra.18.1.2023.61-70.