

# Turtle Conservation for Junior High Social Studies Learning on Natural Resource Conservation

Qoniatunni'mah<sup>1\*</sup>, Satriyo Wibowo<sup>1</sup>, Happi Novriza Setya Dhewantara<sup>1</sup>

<sup>1</sup>Social Sciences Education Program, Yogyakarta State University, Indonesia

## Article Info

Received: 11 February 2026

Accepted: 19 May 2026

Published: 20 May 2026

Corresponding Author:

Name: **Qoniatunni'mah**

Email:

[qoniatunnimah.2023@student.uny.ac.id](mailto:qoniatunnimah.2023@student.uny.ac.id)

Phone: -

## Open Access

© 2026 The Authors. This article is licensed under a Creative Commons Attribution 4.0 International License



## Abstract

Indonesia is a maritime country with rich marine biodiversity, including sea turtles that play an important ecological role in maintaining the balance of marine ecosystems such as coral reefs and seagrass beds. This study aims to analyze the potential of turtle conservation as an environment-based learning medium in supporting the preservation of natural resources in junior high school Social Studies learning. This research employs a qualitative descriptive approach using literature review and contextual analysis of turtle conservation in Pelangi Beach, Bantul. The findings show that turtle conservation provides strong potential as a contextual learning resource that connects ecological issues with Social Studies concepts, particularly in natural resource management and environmental preservation. In addition, the integration of conservation-based learning enhances students' environmental awareness, critical thinking skills, and pro-environmental behavior through direct observation, conservation projects, and collaboration with conservation managers. In conclusion, turtle conservation serves not only as an ecological preservation effort but also as an effective contextual learning medium in Social Studies education. Therefore, its integration into the curriculum is recommended to strengthen environmental literacy and foster students' ecological responsibility through experiential and collaborative learning approaches.

**Keywords:** environmental education; local potential; natural resource conservation; social studies learning; turtle conservation.

## INTRODUCTION

Indonesia, as a maritime nation, possesses abundant marine natural resources with a high level of biodiversity, including the presence of sea turtles as one of the important marine species in maintaining the balance of coastal and marine ecosystems. Sea turtles function as keystone species that maintain the health of seagrass beds through grazing activities, support coral reef balance, and contribute to the stability of marine food chains; therefore, their existence holds highly strategic ecological, social, and economic value (Hendrix & Pérez-Espona, 2024). However, sea turtle populations in Indonesia continue to face serious pressures due to illegal hunting, egg and meat trade, coastal habitat degradation, coastal development, and global climate change, all of which threaten the sustainability of these species (Nahill, 2021; Pertiwi et al., 2020; Maurer et al., 2021). Therefore, sea turtle conservation through habitat protection, captive breeding, monitoring, and community involvement has become an essential part of sustainable natural resource preservation efforts. Sea turtle conservation is not only oriented toward wildlife protection, but also forms part of a broader strategy to maintain environmental sustainability and promote education based on local potential.

In the context of education, sea turtle conservation can be integrated as a contextual learning resource that supports Social Studies learning, particularly in materials related to natural resource conservation, because the utilization of local

environmental potential has been proven to improve environmental literacy, conservation awareness, and students' active engagement in meaningful learning processes (Maulana et al., 2024; Wuryandani et al., 2022). Environmental Education (EE) emphasizes the importance of improving environmental literacy, fostering caring attitudes, and developing practical skills to maintain environmental sustainability (Wetering et al., 2022). Meanwhile, the Contextual Teaching and Learning (CTL) approach enables students to understand learning concepts through direct experiences relevant to their surrounding environmental conditions (Nadhiroh & Efendi, 2023). At the junior high school level, the integration of sea turtle conservation into Social Studies learning can strengthen students' cognitive, affective, and psychomotor aspects through a concrete understanding of the relationship between humans and the environment. Thus, sea turtle conservation has the potential to become an applicative and contextual educational medium that supports the development of environmentally responsible character, because local potential-based learning and environmental education have been proven to enhance ecological literacy, conservation awareness, and students' social responsibility (Nada et al., 2021; Purwasih et al., 2022).

Although sea turtle conservation programs have developed in various regions of Indonesia, including Pantai Pelangi in Bantul, their utilization as curriculum-based Social Studies learning resources has not been extensively examined.

Most previous studies on sea turtle conservation have focused on biological, ecological, governance, and conservation area management aspects, while studies integrating sea turtle conservation as a contextual learning resource in formal Social Studies education remain relatively limited (Harnino et al., 2021; Aziz & Resiana, 2025). Fajeriadi et al. (2025) identified a gap between the significant local potential of conservation and environmental resources as learning media and their still-limited utilization in formal education. In fact, activities such as hatchling releases, nest monitoring, and community education at Pantai Pelangi offer substantial opportunities as authentic learning experiences capable of increasing students' environmental awareness. Therefore, studies are needed that position sea turtle conservation as an environmental-based innovation in Social Studies learning through a contextual educational approach.

Based on these conditions, this study is important for examining the potential of sea turtle conservation at Pantai Pelangi, Bantul, Yogyakarta, as a Social Studies learning resource for junior high schools in supporting natural resource conservation education. This study aims to analyze how sea turtle conservation can be integrated into Social Studies learning as a contextual, relevant, and sustainable environmental education medium. The findings are expected to provide theoretical contributions to the development of Social Studies learning models based on local potential, as well as practical contributions for schools, conservation managers, and local governments in strengthening environmental preservation synergies through education. Therefore, sea turtle conservation functions not only as an ecological effort, but also as a strategic instrument in building a generation that is aware of and responsible for the sustainability of natural resources.

## RESEARCH METHODS

### Research Design

This study employed a qualitative approach using a literature review design (systematic literature review) to analyze the potential of sea turtle conservation as a Social Studies learning resource for junior high schools in supporting natural resource conservation. This method was selected because it enables researchers to obtain a comprehensive understanding through the synthesis of various relevant previous studies without conducting direct field data collection (Snyder, 2019). The research population consisted of scientific articles, accredited national journals, reputable international journals, conference proceedings, and policy documents discussing sea turtle conservation, environmental education, Social Studies learning, and the integration of local potential into formal education.

The research sample consisted of articles selected purposively based on inclusion criteria, namely publications issued between 2020–2025, relevance to the research topic, adequate academic quality, and origin from reputable sources such as Scopus, SINTA, Google Scholar, and other scientific journal databases. The main variables in this study included turtle conservation, local potential, environmental education, Social Studies learning, and natural resource conservation, which were used as the primary keywords in the literature search process. The selection of these variables was based on their relevance in representing the relationship between environmental conservation, the utilization of local potential, contextual education, and social learning as efforts to build

ecological literacy and environmentally responsible character among students (Purwasih et al., 2022; Wetering et al., 2022; Maulana et al., 2024). Literature searches were conducted through platforms such as Google Scholar, the Scopus Database, ScienceDirect, and accredited national journals.

### Research Procedure

The research procedure was conducted through several stages, including the identification of the research topic, determination of keywords, literature searching, source selection based on relevance and inclusion criteria, article quality evaluation, and organization of the collected data (Xiao & Watson, 2019; Page et al., 2021). The literature selection stage was carried out systematically by reviewing the titles, abstracts, research objectives, methods, and findings of each study to ensure alignment with the focus of sea turtle conservation and environmental education (Snyder, 2019). The selected literature was then classified into several main categories, such as sea turtle conservation, environmental education, local potential, and contextual Social Studies learning. Subsequently, the data were analyzed through processes of data reduction, thematic categorization, and narrative synthesis to identify patterns of relationships among studies, research gaps, and opportunities for integrating sea turtle conservation into formal education (Miles et al., 2019).

### Research Data Analysis

Data analysis was conducted using content analysis techniques by thoroughly examining the contents of the literature to identify major themes relevant to the research objectives (Krippendorff, 2019). Findings from various sources were interpreted and organized into a conceptual framework connecting sea turtle conservation, Social Studies learning, and local potential-based environmental education. The synthesized results served as the basis for formulating implementative recommendations for schools, teachers, and conservation managers in optimizing sea turtle conservation areas as contextual learning resources that support the development of environmental literacy and conservation-oriented character among students (Purwasih et al., 2022; Suryawati et al., 2020). Thus, this literature review method provides a strong theoretical foundation for evaluating and formulating strategies for integrating sea turtle conservation into Social Studies learning in a systematic, relevant, and applicable manner.

## RESULTS AND DISCUSSION

### The Potential of Sea Turtle Conservation as a Social Studies Learning Resource for Junior High Schools in Natural Resource Preservation

Sea turtle conservation at Pantai Pelangi, Bantul, demonstrates significant potential as a contextual learning resource in junior high school Social Studies learning, particularly in materials related to natural resource conservation (Hays et al., 2025). Based on the literature review findings, sea turtle conservation not only functions as an effort to protect marine biodiversity, but also serves as an applicative environmental education medium through activities such as habitat monitoring, nest protection, hatchling releases, and coastal community education. The integration of sea turtle conservation into Social Studies learning enables students to directly understand the relationship between humans, the environment, and the sustainable management of natural resources. This potential positions conservation areas

as learning facilities that support the strengthening of ecological literacy, critical thinking skills, and the development of environmentally responsible character.

**Table 1.** Potential Integration of Sea Turtle Conservation in Junior High School Social Studies Learning

| Conservation Aspect                  | Potential for Social Studies Learning         | Educational Implications              |
|--------------------------------------|---|---------------------------------------|
| Beach and sea turtle nest monitoring | Observation of human-environment interactions | Ecological literacy                   |
| Hatchling release activities         | Learning about natural resource conservation  | Environmentally responsible character |
| Conservation community education     | Problem-based learning                        | Critical thinking skills              |
| Coastal local potential              | Contextual learning                           | Meaningful learning experiences       |
| School-community collaboration       | Project-based learning                        | Social responsibility                 |

Source: *Synthesis of literature review, 2025.*

The table demonstrates that sea turtle conservation has high relevance to the objectives of Social Studies learning because it provides authentic learning experiences that connect conservation theory with field practices. From the perspective of environmental education, this approach aligns with the concept of Environmental Education, which emphasizes the development of students' knowledge, attitudes, and skills in fostering pro-environmental behavior through contextual, collaborative, and problem-based learning experiences. Recent studies indicate that effective environmental education is capable of enhancing ecological awareness while simultaneously encouraging sustainable behavioral changes among students through direct experience-based learning (Berglund et al., 2014).

In addition, modern environmental education emphasizes an action-oriented learning approach, namely learning that actively involves students in identifying, analyzing, and solving environmental problems in real contexts. This approach has been proven to improve sustainability action competence, environmental awareness, and students' decision-making abilities (Sass et al., 2024; Van Poeck et al., 2024). Therefore, the integration of sea turtle conservation as a learning medium in Social Studies aligns with the principles of modern Environmental Education because it not only strengthens students' conceptual understanding, but also fosters environmentally responsible attitudes and practical skills in maintaining ecosystem sustainability through direct field experiences. Sea turtle conservation-based learning also supports the development of problem-based learning because students can identify real ecological problems such as illegal trade, habitat destruction, and marine pollution, and subsequently evaluate conservation strategies implemented to address these issues. Thus, sea turtle conservation can function as a contextual and relevant Social

Studies learning medium that supports the strengthening of environmentally oriented student character.

Sea turtles are among the groups of marine biota that are highly vulnerable to various anthropogenic pressures and therefore require serious and sustainable conservation efforts. Recent studies indicate that sea turtle populations in various regions of the world are declining due to human exploitation, including hunting, illegal trade, and coastal habitat degradation (Hays et al., 2025). In addition, illegal trade activities and egg harvesting remain major threats, particularly in Southeast Asia, including Indonesia (Lopes et al., 2022).

In Indonesia, conservation efforts have been carried out through the establishment of conservation areas, captive breeding programs, and the protection of coastal habitats as part of biodiversity conservation strategies (Selmen et al., 2025). However, sea turtles still face serious pressures such as habitat destruction caused by coastal development, marine pollution, and global environmental changes that affect reproductive success (Hays et al., 2025). These conditions emphasize that sea turtle conservation is an urgent necessity in maintaining their ecological role in sustaining marine ecosystem balance. In addition, hatchling release activities and community education constitute important components in increasing ecological awareness and strengthening public participation in sea turtle conservation (Tamrin & Taufiq Abdullah, 2024). Globally, sea turtle conservation strategies also include nest protection, hatchery management, and hatchling release programs as mitigation efforts against increasing anthropogenic threats (Hays et al., 2025). These efforts demonstrate that conservation is not only protective in nature, but also restorative, improving habitats while simultaneously increasing sea turtle populations. Ultimately, sea turtle conservation areas become strategic assets for marine biodiversity preservation and environmental education for the broader community.

Within the educational context, environmental education contributes significantly to fostering ecological awareness and environmentally responsible behavior among younger generations through the enhancement of knowledge, attitudes, and pro-environmental actions. Meta-analysis studies show that environmental education significantly improves students' environmental knowledge, attitudes, intentions, and pro-environmental behavior (van de Wetering et al., 2022). Furthermore, action-based approaches in environmental education have also been proven to improve ecological awareness and students' abilities to respond critically to environmental issues (Lin et al., 2022). The findings indicate that environmental education effectively enhances positive environmental behavior among children and adolescents (van de Wetering et al., 2022).

Sea turtle conservation in Bali represents one form of educational ecotourism development that not only contributes to species preservation, but also functions as an environmental education medium for tourists and local communities. Studies indicate that sea turtle conservation areas in Bali, such as the Turtle Conservation and Education Center (TCEC), function not only as conservation centers but also as educational media that increase visitors' environmental knowledge and awareness (Harnino et al., 2021; Syaputra et al., 2025). The potential of sea turtle conservation is highly relevant for use as a Social Studies learning resource at the junior high school level because Social Studies includes discussions concerning human-environment relationships, natural resource

utilization, and conservation. Through direct experiences such as conservation visits, students can observe sea turtle habitats, analyze environmental problems, and evaluate conservation actions as forms of problem-based learning. This aligns with the objectives of Social Studies education in shaping students who are capable of critical, reflective, and responsible thinking as environmental citizens (Wicaksono et al., 2023).

Furthermore, the utilization of local potential in learning can increase students' motivation and closeness to learning materials because the content is more contextual and relevant to their daily realities (Nadhiroh & Efendi, 2023). Research by Erfariyah et al. (2024) confirms that local potential-based media, such as conservation e-books, effectively improve students' ecological literacy. If sea turtle conservation is integrated into Social Studies learning, students will not only acquire knowledge, but also gain empirical experiences that foster awareness and real actions in preserving natural resources within their own local environments. However, the integration of sea turtle conservation into Social Studies learning still faces several challenges, including limited accessibility to conservation sites for schools located far from coastal areas, insufficient teacher understanding of coastal environmental issues, and uneven school policy support for environmental-based learning. These conditions indicate that the effectiveness of environmental education integration is strongly influenced by the readiness of educational actors and institutional support (Aziz & Resiana, 2025). To address these challenges, strong collaboration is required among schools, conservation communities, universities, governments, and local communities in building environmental-based learning ecosystems. This collaborative approach has been proven to be a key factor in the success of community-based sea turtle conservation (Suryawan & Tehupeiori, 2023).

Based on the literature review, sea turtle conservation as a form of local potential offers strategic value in education and environmental preservation. If integrated into junior high school Social Studies learning, it can increase students' awareness of the importance of conserving natural resources, particularly marine biodiversity; foster ecological literacy and environmental responsibility values from adolescence; facilitate collaboration among schools, local communities, and conservation managers for environmental sustainability; and serve as a contextual educational model relevant to local conditions while enriching the curriculum with local uniqueness and grounding Social Studies materials in real-life contexts. Thus, sea turtle conservation is not merely an environmental issue, but also an educational asset capable of educating younger generations to become environmentally conscious, responsible, and active in natural resource conservation.

Therefore, sea turtle conservation at Pantai Pelangi has strong potential to become an engaging, applicative, and value-rich learning resource to support junior high school Social Studies learning, particularly in materials related to natural resource conservation. Based on the literature review and analysis of local potential at Pantai Pelangi, Bantul, the researchers argue that sea turtle conservation not only functions to maintain the sustainability of endangered species, but also possesses strong pedagogical value, especially within Social Studies learning that emphasizes students' understanding of natural resource conservation and human-environment interactions. The researchers believe that sea

turtle conservation materials can enrich the dimensions of Social Studies learning by focusing not only on cognitive aspects, but also on affective and psychomotor dimensions through direct field experiences. This strengthens students' character as environmentally responsible citizens committed to the sustainability of their surrounding environment.

The researchers also argue that sea turtle conservation at Pantai Pelangi can become a project-based learning resource that enables students to engage in real activities such as habitat observation, documentation of egg hatching and hatchling release processes, and the creation of social media-based conservation campaigns. This context aligns with the objectives of the Merdeka Curriculum in developing the Profil Pelajar Pancasila, characterized by cooperation, critical reasoning, and global awareness. Through direct involvement, students can connect theoretical concepts regarding wise natural resource utilization with real conservation practices in the field, making learning more meaningful, contextual, and applicable.

In addition, from the researchers' perspective, the utilization of sea turtle conservation in junior high school Social Studies learning can encourage interdisciplinary integration. Students not only learn about the socio-cultural and economic aspects of coastal communities, but also understand ecological and scientific aspects related to the sustainability of sea turtle populations. This interdisciplinary approach has the potential to enhance students' understanding of the importance of maintaining balance between the exploitation and preservation of natural resources. Thus, sea turtle conservation can become a bridge connecting social, environmental, and community studies, which are often studied separately within the curriculum.

Nevertheless, the researchers also recognize the need for structural support from various stakeholders so that the integration of sea turtle conservation into Social Studies learning can be implemented optimally. Teachers need to receive training related to coastal environmental education and project-based learning strategies, while schools need to strengthen collaboration with conservation communities such as the 4K Community at Pantai Pelangi in providing educational facilities and facilitating field activities. With such collaborative support, the researchers believe that sea turtle conservation will function not only as a natural resource preservation activity, but also as an educational change agent capable of shaping environmentally responsible generations oriented toward sustainable living.

## CONCLUSION

Sea turtle conservation represents an important effort in maintaining the sustainability of marine resources because sea turtles play an ecological role in preserving the balance of coastal and marine ecosystems. Various threats such as hunting, illegal trade, habitat destruction, and pollution indicate that conservation programs are strategic measures to prevent the decline of sea turtle populations, including in the Pantai Pelangi Bantul conservation area, which also functions as an educational space for communities and students. From an educational perspective, sea turtle conservation has strong potential to be integrated into junior high school Social Studies learning due to its relevance to materials concerning the utilization and preservation of natural resources, as well as its ability to improve critical thinking skills, ecological awareness, and student engagement through Environmental

Education and Contextual Teaching and Learning (CTL) approaches. In addition, this integration encourages cross-sector collaboration among schools, communities, governments, and conservation managers in supporting environment-based learning aligned with the Merdeka Curriculum and the strengthening of the Profil Pelajar Pancasila. Therefore, the development of sea turtle conservation-based learning possesses not only ecological value, but also strategic educational value that should be supported through teacher training, the provision of learning facilities, and further research to examine the effectiveness of its implementation in improving students' environmental literacy.

## ACKNOWLEDGMENTS

The authors would like to express their sincere gratitude to all parties who provided inspiration and support in the preparation of this article. Special appreciation is extended to the managers of the Pantai Pelangi Bantul sea turtle conservation area, who served as an important source of information for this study. The authors also thank the academics and researchers whose scholarly works became the primary references in this literature review. It is hoped that this article will contribute to the development of environmental education, particularly in Social Studies learning at the junior high school level, and support sustainable coastal natural resource conservation efforts.

## REFERENCES

- Basyarul Aziz, & Azlin Resiana. (2025). Edukasi Peningkatan Pelestarian Konservasi Penyu melalui Permainan Lego Bricks di Desa Apar Kota Pariaman. *PaKMas: Jurnal Pengabdian Kepada Masyarakat*, 5(2), 566–575. <https://doi.org/10.54259/pakmas.v5i2.4063>
- Berglund, T., Gericke, N., & Chang Rundgren, S.-N. (2014). The implementation of education for sustainable development in Sweden: investigating the sustainability consciousness among upper secondary students. *Research in Science & Technological Education*, 32(3), 318–339. <https://doi.org/10.1080/02635143.2014.944493>
- Erfariyah, A., Jaenudin, D., & Permana, I. (2024). Development of Conservation E-Books Based on Local Potential to Improve Eco-literacy of Junior High School Students. *International Journal of STEM Education for Sustainability*, 4(2), 267–292. <https://doi.org/10.53889/ijses.v4i2.443>
- Fajeriadi, H., Azzam, M. N., & Azzahra, F. G. (2025). The effect of local potential-based biology learning resources on students' competencies: An in-depth analysis. *Biosfer*, 18(2), 315–326. <https://doi.org/10.21009/biosferjpb.54745>
- Hays, G. C., Laloë, J.-O., & Seminoff, J. A. (2025). Status, trends and conservation of global sea turtle populations. *Nature Reviews Biodiversity*, 1(2), 119–133. <https://doi.org/10.1038/s44358-024-00011-y>
- Hendrix, H., & Pérez-Espona, S. (2024). A Systematic Review of Population Monitoring Studies of Sea Turtles and Its Application to Conservation. *Diversity*, 16(3), 177. <https://doi.org/10.3390/d16030177>
- Krippendorff, K. (2019). *Content Analysis: An Introduction to Its Methodology*. SAGE Publications, Inc. <https://doi.org/10.4135/9781071878781>
- Lin, W.-C., Nguyen, L.-H.-P., Tran, N.-H., & Huang, C.-F. (2022). Impact of an action-oriented environmental education course on students' environmental awareness. *Applied Environmental Education & Communication*, 21(4), 331–347. <https://doi.org/10.1080/1533015X.2022.2099482>
- Lopes, L. L., Paulsch, A., & Nuno, A. (2022). Global challenges and priorities for interventions addressing illegal harvest, use and trade of marine turtles. *Oryx*, 56(4), 592–600. <https://doi.org/10.1017/S0030605320001210>
- Maulana, A. D., Sapriya, S., Mansyur, A. I., & Utami, L. (2024). Integrating Local Environmental Resources into Social Studies Curriculum: A Case Study of Primary Education in Enhancing Environmental Literacy. *IJTIMAIYA: Journal of Social Science and Teaching*, 8(2), 123. <https://doi.org/10.21043/ji.v8i2.29113>
- Maurer, A. S., Seminoff, J. A., Layman, C. A., Stapleton, S. P., Godfrey, M. H., & Reiskind, M. O. B. (2021). Population Viability of Sea Turtles in the Context of Global Warming. *BioScience*, 71(8), 790–804. <https://doi.org/10.1093/biosci/biab028>
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2019). *Qualitative Data Analysis: A Methods Sourcebook* (3th ed.). SAGE Publications.
- Nada, H. N., Fajarningsih, R. U., & Astirin, O. P. (2021). Environmental education to build school members' character. *JPBI (Jurnal Pendidikan Biologi Indonesia)*, 7(1), 43–52. <https://doi.org/10.22219/jpbi.v7i1.14283>
- Nadhiroh, S., & Efendi, N. (2023). Contextual Teaching and Learning (CTL) Approach to Science Learning Outcomes in Grade 4 Elementary Schools. *Indonesian Journal of Education Methods Development*, 18(1). <https://doi.org/10.21070/ijemd.v21i.723>
- Nahill, B. (2021). Fundraising for Sea Turtle Conservation. In *Sea Turtle Research and Conservation* (pp. 201–218). Elsevier. <https://doi.org/10.1016/B978-0-12-821029-1.00020-9>
- Ni Putu Dian Pertiwi, Suhendro, M. D., Yusmalinda, N. L. A., Putra, I. N. G., Putri, I. G. R. M., Artiningsih, E. Y., Al-Malik, M. D., Cahyani, N. K. D., & Sembiring, A. (2020). Forensic genetic case study: Species identification and traceability of sea turtle caught in illegal trade in Bali, Indonesia. *Biodiversitas Journal of Biological Diversity*, 21(9). <https://doi.org/10.13057/biodiv/d210945>
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., ... Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*, n71. <https://doi.org/10.1136/bmj.n71>
- Purwasih, D., Wilujeng, I., Membalik, V., & Hasan, S. (2022). Learning instructional using webbed models based on local potential "Pulau Kembang" to enhance ecological literacy skill. *Jurnal Inovasi Pendidikan IPA*, 8(2), 131–141. <https://doi.org/10.21831/jipi.v8i2.49288>
- Sass, W., De Maeyer, S., Boeve-de Pauw, J., & Van Petegem, P. (2024). Effectiveness of education for sustainability: the importance of an action-oriented approach. *Environmental Education Research*, 30(4), 479–498. <https://doi.org/10.1080/13504622.2023.2229543>

- Selmen, D., Ashibly, A., & Fitri, S. N. (2025). Peran Hukum Nasional Dan Internasional Dalam Konservasi Penyu Sebagai Satwa Liar Yang Dilindungi Di Indonesia. *TANJUNGPURA LAW JOURNAL*, 9(1). <https://doi.org/10.26418/tlj.v9i1.67567>
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333–339. <https://doi.org/10.1016/j.jbusres.2019.07.039>
- Suryawan, I. W. K., & Tehupeior, A. (2023). Strategi Partisipatif Masyarakat dalam Mitigasi Dampak Alami. *Indonesian Journal of Conservation*, 12(1), 88–100. <https://doi.org/10.15294/jsi.v12i1.41919>
- Suryawati, E., Suzanti, F., Zulfarina, Z., Putriana, A. R., & Febrianti, L. (2020). The Implementation of Local Environmental Problem-Based Learning Student Worksheets to Strengthen Environmental Literacy. *Jurnal Pendidikan IPA Indonesia*, 9(2), 169–178. <https://doi.org/10.15294/jpii.v9i2.22892>
- Syaputra, R. H., Basuni, S., & Zulfainarni, N. (2025). Sustainability Analysis and Actor Performance in the Governance of the Turtle Conservation Program at the Turtle Conservation and Education Center (TCEC) Bali. *Journal of Global Sustainable Agriculture*, 214–220. <https://doi.org/10.32502/jgsa.v5i3.1114>
- Tamrin, T., & Taufiq Abdullah. (2024). Konservasi Penyu Melalui Pelepasan Tukik di Pantai Wisata Desa Maitara Kota Tidore Kepulauan. *Bakti Hayati: Jurnal Pengabdian Indonesia*, 3(2), 55–59. <https://doi.org/10.31957/bhji.v3i2.4433>
- van de Wetering, J., Leijten, P., Spitzer, J., & Thomaes, S. (2022). Does environmental education benefit environmental outcomes in children and adolescents? A meta-analysis. *Journal of Environmental Psychology*, 81, 101782. <https://doi.org/10.1016/j.jenvp.2022.101782>
- Van Poeck, K., Vandenplas, E., & Östman, L. (2024). Teaching action-oriented knowledge on sustainability issues. *Environmental Education Research*, 30(3), 334–360. <https://doi.org/10.1080/13504622.2023.2167939>
- Wicaksono, B. A., Khotimah, K., Segara, N. B., & Prastiyono, H. (2023). Analisis Potensi Ekosistem Mangrove Center Tuban Sebagai Sumber Belajar Pendidikan Lingkungan Bahari Dalam Pembelajaran IPS. *SOSEARCH: Social Science Educational Research*, 3(2), 66–80. <https://doi.org/10.26740/sosearch.v3n2.p66-80>
- Wuryandani, W., Fathurrohman, F., & Herwin, H. (2022). The Environmental Utilization as a Learning Resource for Civic Education in Elementary Schools by Prospective Teacher College Students. *Jurnal Prima Edukasia*, 10(2), 194–200. <https://doi.org/10.21831/jpe.v10i2.51923>
- Xiao, Y., & Watson, M. (2019). Guidance on Conducting a Systematic Literature Review. *Journal of Planning Education and Research*, 39(1), 93–112. <https://doi.org/10.1177/0739456X17723971>
- Zeno Adi Eti Harnino, T., Nyoman Yoga Parawangsa, I., Aprilianita Sari, L., & Sulastris Arsad. (2021). Efektifitas Pengelolaan Konservasi Penyu di Turtle Conservation and Education Center Serangan, Denpasar Bali. *Journal of Marine and Coastal Science*, 10(1). <https://e-journal.unair.ac.id/JMCS>