



*Short communication.*

## An overview on the actual situation of aquaculture in Algeria, actions and challenges – a case study of Algerian northeastern provinces

Mouslim BARA

Laboratoire de zoologie appliquée et écophysiologie animal (LZA), université Abderrahmane Mira – Bejaia, 06000, Algeria. Faculté SNVSTU, université 8 mai 1945 Guelma, BP 401, 24000, Guelma, Algeria

---

### ABSTRACT

Aquaculture in Algeria is an emerging and rapidly developing sector that has gained significant momentum in recent decades. This survey provides the first comprehensive dataset on fish production across four provinces in northeastern Algeria. The regional strategy initiated by the department of fisheries and aquaculture primarily selects four species: carp, zander, barbel, and bream. The annual fish production reached up to 112 tons in 2023, with peak yields observed in April, May, and June. This brief communication provides a valuable establishment for planning future production strategies to strengthen the sector. The key challenge now is to innovate and scaling up of production through a multidisciplinary approach that engages policymakers, managers, and researchers.

---

### KEYWORDS

Challenge;  
Dataset;  
Fish production;  
Northeast Algeria;  
Scale up.

---

*Received: 05 January 2016 / Accepted: 16 January 2026 / Published online: 01 November 2026*

\* Corresponding author. E-mail address: [mouslim.bara@gmail.com](mailto:mouslim.bara@gmail.com)

ISSN 2992-1848 EISSN 3088-7623/ © 2026 *Oceanographia Journal*. All rights reserved.

## 1. INTRODUCTION

Asia is known as the most important producer of aquaculture in the world. It is known that 91% the world production currently being produced in Asian region (102.9 million tons in 2017) (Tacon, 2020). For example, In China the aquaculture reached from 8,227.6 tons (in 2000) to 18,505.7 tons (in 2018) (FAO, 2020). The seafood production has grown three times faster than agriculture (Diana *et al.* 2013). This result is probably due to the dramatically rising of human population (6.63 billion in 2007) and food demand around the world. The aquaculture is not related only to fish production, also seaweeds, algae, mollusks and crustaceans are used as a human nutrition (Tacon, 2020).

In the Mediterranean region, the European project “Aquamed” was created in order to stimulate innovation toward sustainable aquaculture. Many projects have emerged in this region in order to promote innovative systems in aquaculture and develop a cooperative approach between countries. For example, in 2017, global aquaculture production ranked Europe and Africa third and fourth, respectively, with production of approximatively 3,020,268 and 2,214,143 tons respectively (FAO, 2019).

The most commonly used fish species in aquaculture are carp (grass carp and common carp) and tilapia (Nile tilapia and tilapia nei). China is the leading global producer of these fish, with estimated production values of 12.68 and 9.2 million tons, respectively. The survey also outlines the production program adopted in northeast Algeria, along with the actions

Global production is projected to reach 18.24 million tons for carp and 13.25 million tons for tilapia by 2025 (Tacon, 2020).

In northeastern Algeria, aquaculture currently produces fish species from the Cyprinidae family (three species) and the Percidae family (one species), whereas in the past, only Cyprinidae (carp) were used in aquaculture (Kara, 2012).

To our knowledge, this is the first update providing data on aquaculture and fish production in northeast Algeria, offering a foundational source for future research and serves as a valuable contribution to the regional aquaculture database. It aims to explore the current situation of aquaculture in four provinces of northeast Algeria by: (1) listing the fish species used in aquaculture, (2) determining the annual fish production, and (3) examining the strategies used to support the program, particularly juvenile fish production.

## 2. MATERIAL AND METHODS

The main objective of our survey is to give a general overview of aquaculture and fish production in four provinces located in northeast Algeria (Guelma, Souk Ahras, Tebessa, and Khenchela). We selected a retrospective sampling method used by extraction from local database. The data was obtained from the Department of Fisheries and Aquaculture in Guelma (the focal point of this program). The sampling period carried between January and December 2023.

and strategies implemented. Additionally, it includes a list of the fish species used during this program

(provided by department of fishing and aquaculture in Guelma).

The data was organized and presented using tables and line plots, a linear function was used to express the trend of fish production by months across all provinces. No statistical tests were applied during this study.

### 3. RESULTS

We recorded four fish species contributing to aquaculture production in these provinces (Guelma, Souk Ahras, Tebessa, and Khenchela): the common barbel (*Barbus barbus*), carp species (*Cyprinidae*), the zander (*Sander lucioperca*), and the common bream (*Abramis brama*).

Fish production peaks during the months of April, May, and June across the four main localities: Guelma, Khenchela, Souk Ahras, and Tebessa (Table 1). Among these, Souk Ahras contributes the largest share, producing 47.7 tons. Tebessa and Guelma follow with 25.25 and 24.05 tons, respectively, while Khenchela produces 15 tons.

The monthly cumulative data indicate that fish production peaks in January and April, reaching 22.7 and 20.9 tons, respectively (Figure 1). During the summer months (from late June to early October), continental fishing production decreases to its minimum

**Table 1.** The trend of aquaculture production in northeast Algeria (data provided from fishing department, regional unit Guelma)

| Month | Province |           |           |         |
|-------|----------|-----------|-----------|---------|
|       | Guelma   | SoukAhras | Khenchela | Tebessa |
| Jan   | 3700     | 2350      | 1850      | 7400    |
| Feb   | 2000     | 1500      | 1600      | 5200    |
| Mar   | 1850     | 2900      | 1900      | 5000    |
| Apr   | 2550     | 16050     | 1500      | 400     |
| May   | 2200     | 12600     | 1250      | 400     |
| Jun   | 7800     | 2100      | 1400      | 300     |
| Jull  | 1250     | 350       | 1300      | 150     |
| Aug   | 1000     | 800       | 150       | 150     |
| Sep   | 300      | 1550      | 600       | 150     |
| Oct   | 300      | 1400      | 1050      | 150     |
| Nov   | 300      | 2850      | 1050      | 2450    |
| Dec   | 800      | 3250      | 1350      | 3500    |

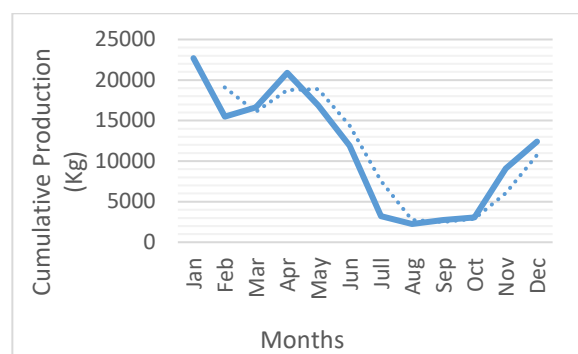


**Figure 1.** Trend of monthly cumulative aquaculture production in the four provinces northeast Algeria. Line: fishing data and Dots: mean trend of data.

In north-eastern Algeria, aquaculture is experiencing steady growth, with an annual fish production of approximately 100 tons. In 2023, despite health-related restrictions aquaculture stakeholder achieved a total fish production of 112 tons. The department of fisheries and aquaculture has implemented a new strategy to support this sector, including the distribution of 30,000 juvenile fish to sustain the production program.

On the other hand, continental (inland) fishing also supplies the fish market in this region, with annual production varying between 30 and 113 tons.

#### 4. DISCUSSION

The biodiversity in aquatic ecosystems is threatened by many factors such as exotic species, pollution overexploitation of bioresources and habitat loss (Diana, 2009). The significative correlation between aquaculture (food supply) and conservation of ecosystems (by reducing exotic species) is suitable to preserve the equilibrium in biodiversity.

The current survey highlights the situation of aquaculture in Algeria and the recent regional program aimed at developing this sector. A significant quantity of

fish is produced annually. The program is supported by a substantial supply of juveniles to enhance production. This fish production increased significantly during winter, where the marine fishing decreasing due to climatic condition (it is impossible to navigate offshore because rough sea condition).

The primary method of aquaculture production in these four provinces is freshwater fish farming, which relies on cottage-industry units and is planned to supply the domestic market. This contrasts with other provinces in Algeria, such as Annaba and Skikda, where marine fish farming, based on sea operations, is also practiced (Kara *et al.* 2018).

It is now clearly noted that aquaculture yields have increased in North and South America as well as in Europe (FAO, 2020). In contrast, aquaculture in Africa continues to experience a decline in fish production compared to other regions.

The next milestone for fish production and aquaculture in northeast Algeria is to reach scaling up production, despite feed availability and infrastructures limiting issues. To achieve this challenge, it is recommended securing reliable sources of feed ingredients (Tacon and Metian, 2015). Furthermore, the innovation process should be multidisciplinary, involving institutional engagement, research support, and socioeconomic considerations (Kara *et al.* 2018).

#### ACKNOWLEDGEMENTS

The author of this report kindly thanks the department of fish production and aquaculture in Guelma (Algeria) for their assistance and providing dataset on aquaculture production across the four provinces. We also appreciate the moral support from MESRS and DGRSDT.

## REFERENCES

- Diana J. S. (2009). Aquaculture production and biodiversity conservation. *Bioscience* 59: 27-38  
<https://doi.org/10.1525/bio.2009.59.1.7>
- Diana J. S., Egna H. S., Chopin T., Peterson M. S., Cao L., Pomeroy R., Verdegem M., Slack W. T., Bondad-Reantaso M. G., Cabello F. (2013). Responsible aquaculture in 2050: valuing local conditions and human innovations will be key to success. *BioScience* 63: 255-262 <https://doi.org/10.1525/bio.2013.63.4.5>
- FAO (2019). FishStatJ, a tool for fishery statistics analysis, Release: 3.5.0, Universal Software for Fishery Statistical Time Series. Global aquaculture production: Quantity, Rome, Italy, 1950–2017.
- FAO (2020). FishStatJ, a tool for fishery statistics analysis. Release: 4.00.10. Universal Software for Fishery Statistical Time Series. Global aquaculture production: Quantity, Rome, Italy, 1950–2018.
- Kara H. M. (2012). Freshwater fish diversity in Algeria with emphasis on alien species. *European journal of wildlife research* 58: 243-253  
<https://doi.org/10.1007/s10344-011-0570-6>
- Kara M. H., Lacroix D., Rey-Valette H., Mathé S., Blancheton J. P. (2018). Dynamics of research in aquaculture in North Africa and support for sustainable development and innovation. *Reviews in Fisheries Science & Aquaculture* 2: 309-318  
<https://doi.org/10.1080/23308249.2017.1410521>
- Tacon A. G., Metian M. (2015). Feed matters: satisfying the feed demand of aquaculture. *Reviews in Fisheries Science & Aquaculture* 23: 1-10  
<https://doi.org/10.1080/23308249.2014.987209>
- Tacon A. G. (2020). Trends in global aquaculture and aquafeed production: 2000–2017. *Reviews in Fisheries Science & Aquaculture* 28: 43-56  
<https://doi.org/10.1080/23308249.2019.1649634>