

The background of the slide is a light gray gradient with several realistic water droplets of various sizes scattered across it. The droplets have highlights and shadows, giving them a three-dimensional appearance.

# INTRODUCTION TO AQUATIC SCIENCES

**9. Week**

**Introduction to Fishing Techniques**

## Introduction to Aquatic Sciences

### WEEKLY TOPICS (CONTENT)

---

Week	Topics
1. Week	Aquaculture in Turkey and world
2. Week	The role of fish in human consumption
3. Week	What is fish? Taxonomy of fish
4. Week	Aquatic Crustacean
5. Week	Water quality for aquaculture
6. Week	Introduction to marine fish
7. Week	Introduction to freshwater fish
8. Week	Live foods (microalgae, zooplankton and <i>Artemia</i> )
9. Week	Introduction to fishing techniques
10. Week	Fish transport
11. Week	Introduction to fish disease
12. Week	Introduction to fisheries economy
13. Week	Processing and marketing of fish
14. Week	Introduction to fisheries and aquaculture management

## 1 Commercial fishing: the wider ecological impacts

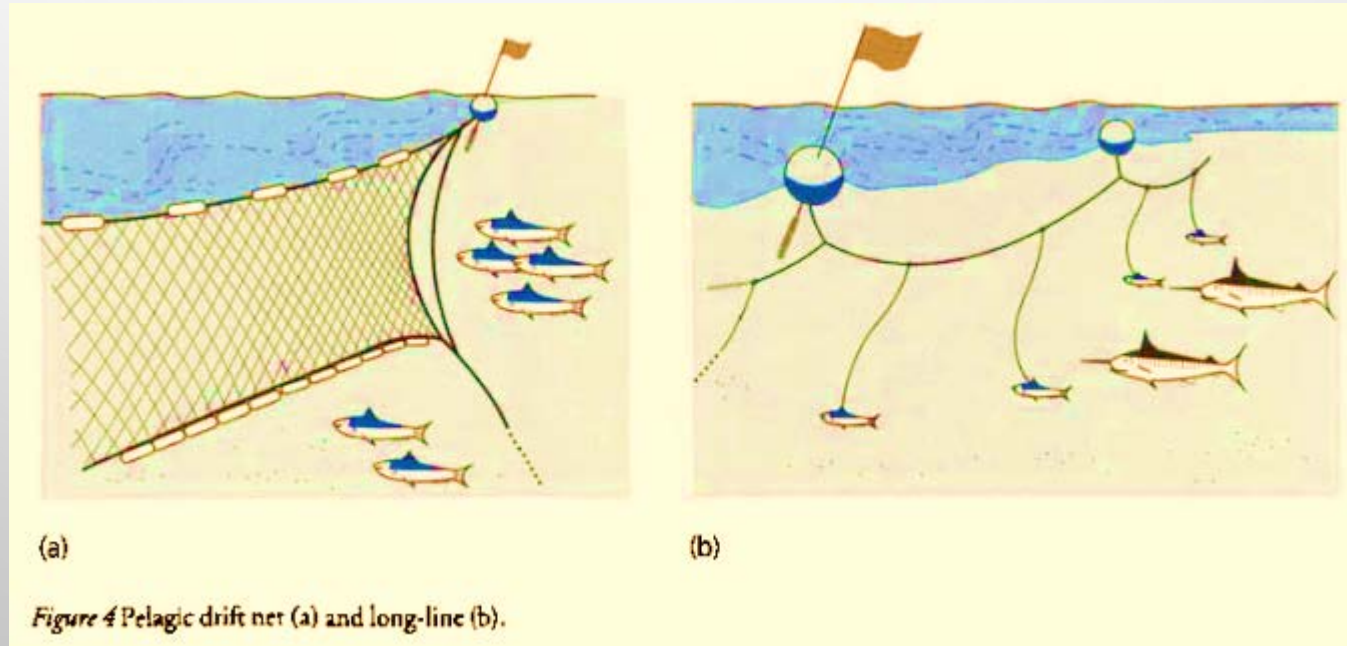
### Issues

Fisheries provide food, income and employment for 200 million people. Fishing gears are designed to catch edible and marketable fish or shellfish, but they also catch non-target species and damage marine habitats. The direct effects of fishing have indirect effects on

the structure and function of marine ecosystems. We need to know the causes and consequences of fishing effects in order to apply valid conservation measures. These will help guarantee long-term yields of food and income from fisheries while minimizing their environmental impact.

Moore, G., Jennings, S. (Eds.). (2008). *Commercial Fishing: The Wider Ecological Impacts*. John Wiley & Sons.

*"It is impossible in these times to develop a 'natural' ecology, one that ignores the impact of Man. Ecology should inspire a wiser management of nature: the feedback should work"*  
Ramón Margalef (1968)  
*Perspectives in Ecological Theory*



Moore, G., Jennings, S. (Eds.). (2008). *Commercial Fishing: The Wider Ecological Impacts*. John Wiley & Sons.

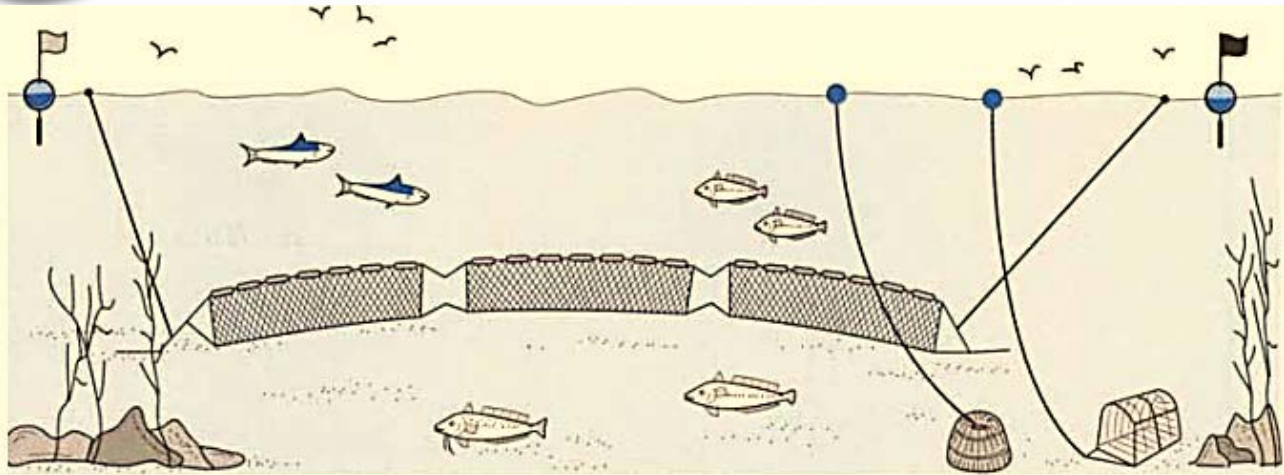


Figure 5 Traps, pots and set gill nets used to catch species living close to the sea bed.

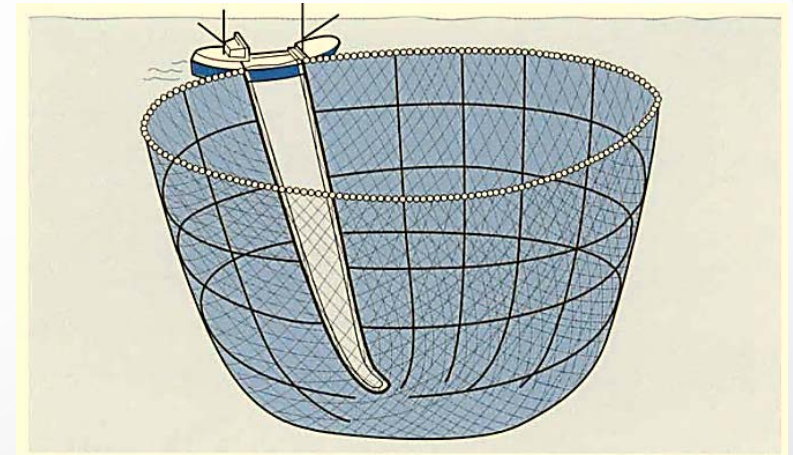
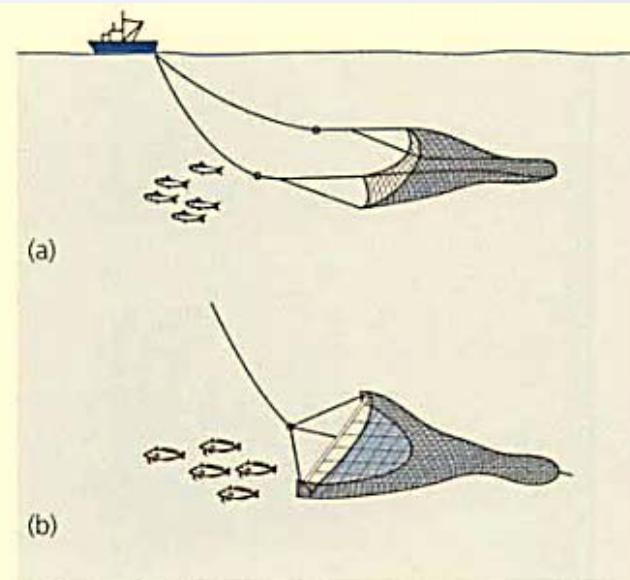



Figure 6 A purse seine used to catch pelagic species.

Figure 7 Otter (a) and beam trawls (b) are used to catch bottom dwelling species.






Before you go fishing for the first time, it is really helpful to learn and understand more about fishing as a whole so that your initial experiences are successful and fulfilling. In time, fishing will become second nature, to the point where it becomes a part of your everyday life.


Henry Gilbey






Pelagic longline gear had several independent evolutions, but the most widespread form appears to have been originally developed by the Japanese as early as the mid-19th century. Technological developments such as polyamide monofilament line and modern fishing vessel construction have resulted in the evolution and expansion of this gear type as the primary worldwide method of commercially harvesting large pelagic fishes such as broadbill swordfish and tunas.

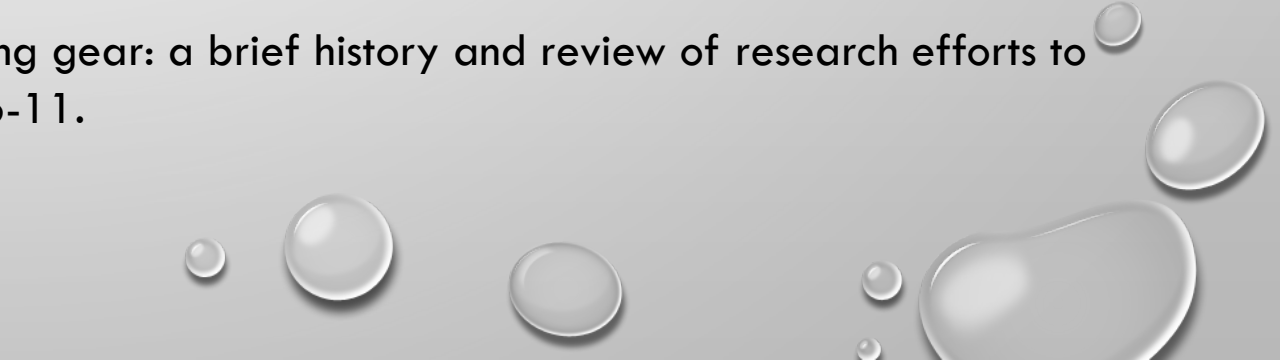
Watson, J. W., & Kerstetter, D. W. (2006). Pelagic longline fishing gear: a brief history and review of research efforts to improve selectivity. *Marine Technology Society Journal*, 40(3), 6-11.





The adaptability of the gear through changes in materials, lengths, and deployment strategies has resulted in generally high selectivity for many target species, the bycatch of protected species by pelagic longlines is considered a global problem in the conservation effort to sustain populations of sea turtles, sea birds, and some istiophorid billfishes (sailfishes; spearfishes; marlins). Recent research on the modification of pelagic longline fishing strategies uses this inherent adaptability of the gear to avoid or reduce the mortality of bycatch species.

Watson, J. W., & Kerstetter, D. W. (2006). Pelagic longline fishing gear: a brief history and review of research efforts to improve selectivity. *Marine Technology Society Journal*, 40(3), 6-11.







## References

Nomura, M., Yamazaki, T. (1975). Fishing Techniques.

Werner, T., Kraus, S., Read, A., Zollett, E. (2006). Fishing techniques to reduce the bycatch of threatened marine animals. *Marine Technology Society Journal*, 40(3), 50-68.

Cooke, S. J., Cowx, I. G. (2006). Contrasting recreational and commercial fishing: searching for common issues to promote unified conservation of fisheries resources and aquatic environments. *Biological conservation*, 128(1), 93-108.

Watson, J. W., Kerstetter, D. W. (2006). Pelagic longline fishing gear: a brief history and review of research efforts to improve selectivity. *Marine Technology Society Journal*, 40(3), 6-11.

Moore, G., Jennings, S. (Eds.). (2008). *Commercial Fishing: The Wider Ecological Impacts*. John Wiley & Sons.

