

渔业英语 阅读与翻译教程

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渔业英语 阅读与翻译教程

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前 言

《渔业英语阅读与翻译教程》以英语为载体,以渔业领域文章为依托,使学生在获取相关渔业知识的基础上,提高英语的阅读和翻译能力。本教程能拓宽学生视野和思路,扩大渔业英语词汇及文体特征等系统知识量,提高学生综合应用渔业英语的能力,满足我国 21 世纪建设海洋强国的需要。

本教程涵括渔业生物、渔业资源与环境、渔业装备与捕捞、渔业产品与加工、渔业经济等 5 个章节。每章包括 4 个单元,每个单元包括课文 A、课文 B 和趣味短文,每篇课文中又包括词汇、短语、术语、专有名词、翻译及解析和练习等内容。本教程内容新颖,紧跟渔业发展最新动态,保持目的语与源语之间一定的关联性,图文并茂,融科学性、可读性和实用性于一体。

本教程的主要特点:(1)着眼渔业,内容丰富。课文选自英语国家渔业领域教科书、科普知识网站和国内英语期刊,知识内容兼具实效性、普适性和专业性。(2)主题鲜明,实用性强。课文用词严谨,语言规范,突出渔业英语的语言特点,追求地道的渔业英语表达。(3)内容依托,特色突出。本教程以特色的渔业主题文章为依托,有利于激发学生学习英语的积极性,使在学习文章内容过程中习得语言。(4)侧重阅读与翻译。本教程的阅读与翻译内容涉及渔业的五大领域,内容丰富,实用性强。

《渔业英语阅读与翻译教程》有利于提高学生的英语语言综合应用能力,尤其是阅读和翻译能力,使学生在了解渔业领域知识的过程中习得语言,既是我国高校教育工作者内容依托教学的适用教材,也是本科生及研究生进行学习的必要参考用书。本教程对培养适应 21 世纪需要的兼顾渔业知识和英语应用能力的复合应用型人才具有重要意义。

编 者

2018 年 2 月

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Chapter 1

Fishery Biology (Aquaculture)



Unit 1

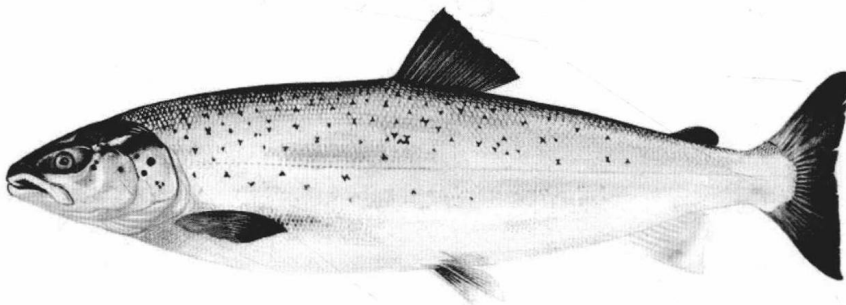
Fish Farming

Pre-reading

- 1. To learn some knowledge about Atlantic salmon from the perspectives of the habitat and biology, the production systems, the on-growing techniques, etc.
- 2. To be familiar with the history of cold-water fishes culture and some factors influencing the fish culture industry.

Text A

How to Farm Atlantic Salmon



TEXT

Historical background

1. Atlantic salmon culture began in the 19th century in the UK in freshwater as a means of stocking waters with parr in order to **enhance** wild returns for **anglers**. **Sea cage culture** was first used in the 1960s in Norway to raise Atlantic salmon to marketable size. The early successes in Norway prompted the development of salmon culture in Scotland, and latterly Ireland, **the Faroe Islands**, Canada, the North Eastern seaboard of the USA, Chile and Australia (Tasmania). Minor production also occurs in New Zealand, France and Spain. All of the major production areas lie within latitudes $40^{\circ} - 70^{\circ}$ in **the Northern Hemisphere**, and $40^{\circ} - 50^{\circ}$ in **the Southern Hemisphere**.
2. Rapid increases in production have led to falling prices, which in turn have put increasing pressures on producers to limit costs. Significant future expansion of the industry may rely on the development of offshore sites, since most of the available suitable inshore sites are already in use, and because of increasing antagonism towards, and regulation over, further expansion in sheltered areas.
3. The vast majority of Atlantic salmon currently in production is hybrid stock, derived originally from native crossed with Norwegian stock. Some family breeding programmes are now **in place**, in order to attempt to identify family lines with increased production potential and/or disease resistance. The use of sex or genetic **manipulation** in Atlantic salmon is not widely used in cultured fish.

Habitat and biology

4. Wild Atlantic salmon are found in the North Atlantic on both European (Portugal to Russia) and North American (Cape Cod to Labrador) sides. They also occur around North Atlantic islands (e. g. UK, Iceland, Greenland). They spend up to 4 years in deep-sea feeding grounds feeding on **pelagic** species such as herring, sprat and squid. **At the onset of** maturation, fish cease feeding, and return to their rivers of origin to spawn (October – January). Most fish die following spawning, although some may return to sea as “kelts”.
5. Eggs are released and fertilized in “redds” in upstream gravel beds, where they eye after approximately 250 degree days and hatch after a further 250, in spring. The

hatched alevins **live off** their **yolk sacs** for approximately 300 degree days, hiding amongst the gravel and rocks in the streams, until they begin to feed as fry.

6. Juvenile fish remain in freshwater, feeding on insect larvae and small fish, through fry and parr stages for 2 – 5 years, until they **undergo** seawater adaptation and become “smolts” (smoltification, a process triggered by changing photoperiod) and **migrate** downriver to sea (normally March – June), where they **head for** deep water feeding grounds to grow and mature. Wild smolts are normally around 20 – 30 g; fish in seawater can reach large sizes but are typically 8 – 13 kg when they start their spawning migration.

Production systems

Seed supply

Freshwater hatchery

7. Broodstock are selected from seasite production stocks, and normally moved into freshwater tanks or cages in autumn approximately 2 months **prior to** stripping.
8. Eggs are stripped dry, fertilized with milt, then water hardened and disinfected, prior to laying them down in trays or silo systems. They are “shocked” following eyeing by pouring from one container into another to remove unfertilized eggs.
9. Hatching takes place in hatchery trays or following transfer to tanks. Alevins are provided with a matting or stony “substrate” to **mimic** the natural gravel “redd”, and usually maintained in darkened conditions. Incubation of eggs and alevins normally takes place in water at $< 10^{\circ}\text{C}$. Following yolk sac absorption, alevins will “swim up” in the water column, indicating readiness to first feed. First feeding, using inert feeds, is normally carried out following transfer of late alevins into tanks, although feed may **initially** be offered in hatchery trays. “Feeding fry” can be grown on in tanks, either using flow-through or various recirculation systems, or subsequently in **lake cage systems**, through parr stages to smolt.

Nursery

10. Fish can either be maintained on **ambient** temperature and light regimes to produce “S1” smolts in the spring of the year following hatch, or light and temperature regimes can be manipulated artificially to induce early smoltification. Production densities vary depending on the system; very intensive systems may maintain fish at densities as high as 50 kg/m^3 or higher.

On-growing techniques

In seawater

11. Smolted fish at 40 – 120 g are transferred to seasites following the determination that fish have smolted and are adapted for seawater survival, using combinations of experience and seawater tolerance testing techniques. Transfers are usually carried out in specialized transport tanks by any combination of road, helicopters, and by sea in specialized “wellboats” (boats with large wells circulating seawater). On-growing at sea normally takes place in cages consisting of large nets **suspended** from various floating “walkway” systems **anchored** to the seabed, although some production has been carried out in pump-ashore seawater tank systems. Cages may be square or circular in design, and come in various sizes and systems. The larger sites may have cages as large as 24 m² or 100 m in diameter, suspending nets that may reach depths of 15 – 18 m, **enclosing** water volumes of thousands of cubic metres. Several cages may be grouped together to form a seasite.
12. Seasites are selected on their suitability **with regard to** water temperature, salinity, flow and exchange rates, **proximity to** other farms and/or wild fisheries, and **in compliance with** local licensing regulations. Atlantic salmon grow best in sites where water temperature extremes are in the range 6 – 16 °C, and salinities are close to oceanic levels (33 – 34 per cent). Water flows need to be sufficient to eliminate waste and to supply well oxygenated water (approximately 8 ppm). Maximum stocking densities of up to 20 kg/m³ are usual. Atlantic salmon are on-grown in seasites for up to 2 years with harvesting of fish from 2 kg upwards. Seasites normally contain a single generation of fish. Good practice is to **fallow** seasites for a period of 6 weeks or more prior to the introduction of a new generation of fish.

Feed supply

13. The bulk of salmon feeds are produced by three or four large companies. Fish meal and fish oil, derived largely from the huge industrial fisheries in South America, still form the basis of salmon diets, although increasing pressure on these sources have led to increased research into the **substitution** of fish products with vegetable protein and oil sources in recent times. Salmon grower diets contain high levels of fish oil, which is efficiently converted by the salmon, often at food conversion ratios of close to 1:1. Feeding methods and technology have also advanced in recent years. Many seafarms use computerized systems to drive automated feeding systems, with feedback mechanisms to detect when fish have finished feeding. This allows fish to be fed to satiation without overfeeding and consequent feed wastage.

14. In order to produce fish with the flesh colour demanded by the market, **carotenoid pigments** are added to the diet (at high cost to the farmer) during the seawater growing phase of the production cycle.

Harvesting techniques

15. Methods of harvesting vary but fish are generally starved for up to 3 days beforehand. The whole process is carried out with the aim to keep stress to a minimum, thus maximizing flesh quality. The fish are crowded in pens using sweep nets and are either pumped from the holding pen alive and transported to **the slaughter plant**, generally by well boat, or slaughtered on the side of the pens.

Handling and processing

16. In Scotland, for example, most fish are initially stunned using an automated stunner or a blow to the head. Bleeding is then carried out by cutting the gill arches rapidly and the fish are **immersed** in iced water. Waste disposal of blood is strictly controlled in order to prevent disease transmission. The fish are then gutted, washed and chilled. Once the flesh temperature reaches approximately 3 °C, the fish are graded and packed on ice. At this stage, whole fish can be frozen for sale as whole frozen salmon or as fresh gutted salmon. However, most fish are filleted and either sold as fresh salmon fillets or **set aside for** smoking.
17. **The smoking of salmon** accounts for over 60 per cent of total salmon use. Many different methods of smoking exist, but to summarize the process, the fillets are salted, and smoked over **smouldering** wood chips. The product is then trimmed, deboned and either sliced by hand or machines.

(1,399 words)

► New Words

enhance [ɪn'hɑ:ns]

v. to increase; to make better or more attractive 增加, 增强, 改善

The candlelight enhanced her beauty.

烛光使她显得更美。

angler [ˈæŋɡlə]

n. someone who fishes with a fishing rod as a hobby 垂钓爱好者

Evidently he had the first quality of an angler, which is not to measure the pleasure by the catch.

他显然具备了垂钓者的首要品质,即以钓为乐,钓多钓少无所谓。

- manipulation [məˌnɪpjʊˈleɪʃ(ə)n] *n.* the action of touching with the hands (or the skillful use of the hands) or by the use of mechanical means 熟练的使用;操作;处理
They make a lot of money by clever manipulation of the stock market.
他们巧妙地操纵股票市场而大赚其钱。
- pelagic [pɪˈlædʒɪk] *a.* relating to or occurring or living in or frequenting the open ocean 深海的,远洋的
Pelagic sharks are usually caught on the high seas in tuna or swordfish fisheries.
深海鲨鱼通常在公海中被金枪鱼或箭鱼的捕捞渔业同时捕获。
- undergo [ʌndəˈɡəʊ] *v.* to go through (mental or physical states or experiences) 经历,经受
The city has undergone many changes during the last ten years.
这个城市在过去十年中经历了很多变化。
- migrate [maɪˈɡreɪt] *v.* to move periodically or seasonally (候鸟等)迁徙,移栖;(鱼类)洄游
The census study should help determine whether the fish remain close to home or migrate and then return to the same areas year after year.
这次普查研究应帮助确定鱼儿是始终在家附近活动,还是年复一年地往原住地洄游。
- mimic [ˈmɪmɪk] *v.* to imitate (a person or manner), especially for satirical effect 模仿,模拟
The computer doesn't mimic human thought. It reaches the same ends by different means.
计算机模仿不了人类的思维。它通过不同的方式达到相同的目的。
- initially [ɪˈnɪʃ(ə)li] *ad.* at the beginning 最初,首先;开头
Forecasters say the storms may not be as bad as they initially predicted.
预报员们说暴风雨也许不会有他们最初预报的那样糟。
- ambient [ˈæmbɪənt] *a.* completely enveloping 周围的;外界的;环绕的
Ambient sound is the most common cause of sleep interruption, since even during sleep, the brain must actively receive sensory information.

suspend [sə'spend]

周围环境中的噪声是造成睡眠中断的最常见原因,因为即便在睡眠期间,大脑也必须积极地接收感觉信息。

v. to stop a process temporarily; to hang freely 使暂停;使悬浮

The paste contains collagen suspended in a salt solution.
糨糊含有悬浮在盐溶液中的胶原质。

anchor ['æŋkə]

v. to fix firmly and stably 抛锚,停泊;使固定

The roots anchor the plant in the earth.
根须把这植物固定在土里。

enclose [ɪn'kləʊz]

v. to close in or confine; to surround something completely 装入;包围

The rules state that samples must be enclosed in two watertight containers.

条例规定样品必须用两个不漏水的容器封装起来。

fallow ['fæləʊ]

v. to leave (land) unseeded after ploughing and harrowing it 使(土地)休耕

Farmers know that soil needs rest, so they rotate their crops and systematically fallow a portion of their land.

农夫们知道土地是需要休息的,因此他们轮流种植农作物并系统地留一部分土地休耕。

substitution [ˌsʌbstɪ'tju:ʃ(ə)n]

n. the act of putting one thing or person in the place of another 替换

Substitution, No. 3 for No. 4.

换人, 4 号下, 3 号上。

pigment ['pɪgm(ə)nt]

n. a substance that gives something a particular color 颜料, 色素

The pigment in the upper layer of skin (epidermis) that gives your skin its normal color is called melanin.

在浅层皮肤(表皮)中有种色素能让你的皮肤保持其正常的颜色,称为黑色素。

slaughter ['slɔ:tə]

n. the killing of animals (as for food) 屠宰, 屠杀

The disadvantages are, that there is a chemical plant one block south and a slaughter house one block north.

缺点是南面有一家化工厂,北面有一家屠宰场。

immerse [ɪ'mɜ:s]

v. to put something into the liquid so that it is completely covered 使浸没

The electrodes are immersed in liquid.

电极被浸没在液体中。

smoulder ['sməʊldə]

v. to burn slowly, producing smoke but not flames 用文火

焖烧

People are trying to water the smouldering wood.

人们正在尝试用水把那些正用文火焖烧的木块浇灭。

► Phrase and Expressions

in place 适当的,恰当的

at the onset of 在……开始的时候

live off 以……为食料;靠……生活

head for 前往;出发

prior to 在……之前;居先

with regard to 关于,至于

proximity to 接近,邻近

in compliance with 按照

set aside for 为……留出

► Terminology

sea cage culture 海洋网箱养殖

(海洋网箱养殖是将池塘密放精养技术运用到环境条件优越的较大水面而取得高产的一种高度集约化的养殖方式。优点有海域广阔、资源节约、机动灵活、管理方便等。小于 30 平方米的为小型网箱,31—60 平方米的为中型网箱。过大的网箱产量不高,网易破,鱼易逃,捕捞困难。目前,国际上网箱都以小型为主。)

yolk sac 卵黄囊

lake cage system 湖水网箱养殖系统

carotenoid pigment 胡萝卜素色素

the slaughter plant 屠宰厂

the smoking of salmon 熏制三文鱼

► Proper Names

the Faroe Islands 法罗群岛

the Northern Hemisphere 北半球

the Southern Hemisphere 南半球

► Translation

1. Atlantic salmon culture began in the 19th century in the UK in freshwater as a means of stocking waters with parr in order to enhance wild returns for anglers. (Para. 1)

大西洋三文鱼养殖始于 19 世纪的英国,将幼鲑饲养在淡水中进行储水,钓鱼者可以钓到更

多野生洄游鱼。

2. Sea cage culture was first used in the 1960s in Norway to raise Atlantic salmon to marketable size. The early successes in Norway prompted the development of salmon culture in Scotland, and latterly Ireland, the Faroe Islands, Canada, the North Eastern seaboard of the USA, Chile and Australia (Tasmania). (Para. 1)

20 世纪 60 年代,挪威开始进行海洋网箱养殖,将大西洋三文鱼养殖成市场规格。挪威早期取得的成功将三文鱼养殖推广到了苏格兰,之后到了爱尔兰、法罗群岛、加拿大、美国东北沿海、智利和澳大利亚(塔斯马尼亚岛)。

3. Minor production also occurs in New Zealand, France and Spain. All of the major production areas lie within latitudes $40^{\circ} - 70^{\circ}$ in the Northern Hemisphere, and $40^{\circ} - 50^{\circ}$ in the Southern Hemisphere. (Para. 1)

新西兰、法国和西班牙也有小规模的生产。大规模生产区域集中在北纬 $40^{\circ} - 70^{\circ}$ 和南纬 $40^{\circ} - 50^{\circ}$ 区域。

4. The hatched alevins live off their yolk sacs for approximately 300 degree days, hiding amongst the gravel and rocks in the streams, until they begin to feed as fry. (Para. 5)

孵化出来的幼鱼大约有 300 天是以卵黄囊为食料,藏在潮流中的沙砾和岩石中,直到慢慢长成了鱼苗。

【这个句子中 fry 原意为“油炸食物”,在水产领域中意为“鱼苗”。】

5. “Feeding fry” can be grown on in tanks, either using flow-through or various recirculation systems, or subsequently in lake cage systems, through parr stages to smolt. (Para. 9)

“初孵仔鱼的喂养”可以在池塘里进行,使用溢流法或者各种各样的再循环系统,或者接下来使用湖水网箱养殖系统,把幼鲑喂养成可以由河入海的小鲑鱼。

6. Smolted fish at 40 – 120 g are transferred to seasites following the determination that fish have smolted and are adapted for seawater survival, using combinations of experience and seawater tolerance testing techniques. (Para. 11)

结合经验和海水公差测试技术,人们根据已经入海并适应海水生存下来的幼鲑的测定情况,把 40—120 克的小鲑鱼移送到海里。

【英、汉语在语法结构上有许多差别,如英语句子中,定语的位置和状语的表达词序与汉语不同,甚至相反。英译汉时,需要采用换序译法,即根据汉语的语言习惯,对英语的词序进行调整,有时甚至要从原文后面译起,即逆着原文的顺序翻译。】

7. Seasites are selected on their suitability with regard to water temperature, salinity, flow and exchange rates, proximity to other farms and/or wild fisheries, and in compliance with local licensing regulations. (Para. 12)

海域的选择是遵照当地的许可规定,基于小鲑鱼对海水温度、盐度、水流和换水率的适应性,以及与其他渔场和/或野生渔场的邻近度而定。

8. Fish meal and fish oil, derived largely from the huge industrial fisheries in South America, still form the basis of salmon diets, although increasing pressure on these sources have led to in-