

(8)

- 1 proven technically impossible
- 2 attracted greater attention
- 3 suffered from lack of investment
- 4 been adopted worldwide

(9)

- 1 basically imitate
- 2 be put into action during
- 3 have little effect on
- 4 be difficult due to

(10)

- 1 raises another problem with
- 2 confirms the necessity of
- 3 has nothing to do with
- 4 highlights the goal of

*Read each passage and choose the best answer from among the four choices for each question. Then, on your answer sheet, find the number of the question and mark your answer.*

## Offshore Fish Farms

Americans now consume almost a million tons of imported seafood every year. With wild fish populations in decline, nearly half of this is produced by aquaculture, also called fish farming. Now, the U.S. government is planning to expand the number of domestic fish farms. With many coastal areas already developed for commercial fishing and other uses, the Department of Commerce has its sights set on offshore areas. It hopes that by leasing areas in the open ocean to corporate fish-farming operations, it can cut the \$10 billion annual seafood trade deficit while providing much-needed jobs for U.S. workers.

Aquaculture poses environmental problems, however. Coastal fish farms often pollute surrounding waters with chemicals, and farm-raised fish can escape and spread disease to wild populations. Offshore farms will likely intensify these problems; larger numbers of fish are involved, and cages in the open ocean may be more easily damaged by storms, allowing fish to escape and disturb local ecosystems. Moreover, many farmed fish such as cod — which need to eat up to three kilograms of protein for every kilogram of weight they gain — are given feed that is made from small, wild-caught fish. This results in a net loss of fish protein, and it robs wild fish populations of essential prey, causing their numbers to shrink. Offshore aquaculture will only worsen the situation.

Richard Langan, a former commercial fisherman and now a marine biologist at the University of New Hampshire, believes the question is not whether global aquaculture will continue to develop, but how large a role the United States will play in this industry. Americans have done a “pretty good job of being con-

sumers of aquaculture products,” he says. “Now it is time to decide if we want to be producers.” Aware of the economic opportunity and the environmental dangers, Langan is working with the government to improve aquaculture efficiency while lessening its environmental impact.

(11)

The Department of Commerce’s aquaculture plan

- 1 aims to ensure the U.S. fishing industry maintains its current position as a leading exporter.
- 2 will result in the quality of U.S.-produced fish being higher than that of the fish currently imported.
- 3 will be run by experts who have experience managing fish farms outside of the United States.
- 4 is intended to boost the U.S. economy and reduce the country’s reliance on imported seafood.

(12)

What is one problem associated with offshore aquaculture?

- 1 Coastal fish farms will cause more pollution as they try to match production at fish farms in the open ocean.
- 2 The industry’s efforts to produce more farmed fish will lead to a further shortage of food for wild fish.
- 3 The fish farms may attract large marine animals that will damage the cages if they try to attack the farmed fish.
- 4 Producing enough fish to make a profit will require a larger investment than most fish farmers can afford.

What is one thing Richard Langan hopes to do?

- 1 Develop aquaculture methods that allow the United States to be competitive in the industry.
- 2 Convince commercial fishermen to give threatened fish populations in U.S. waters a chance to recover.
- 3 Teach U.S. consumers about the environmental benefits of raising fish in well-run offshore fish farms.
- 4 Encourage the U.S. government to relax its restrictions on large-scale offshore aquaculture.