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Т. И. ОСТАПЕНКО

АНГЛИЙСКИЙ ЯЗЫК
ТЕКСТЫ ДЛЯ ЧТЕНИЯ И ПЕРЕВОДА

Практическое пособие

для студентов специальности 1-75 01 01 «Лесное хозяйство»

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Рецензенты:

кандидат филологических наук И. Н. Пузенко,
кандидат филологических наук И. А. Хорсун

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В практическом пособии представлены тексты для чтения и перевода. Целями издания являются формирование у студентов навыков чтения, говорения и письма, а также проработка профессионально ориентированного лексического материала.

Адресовано студентам специальности 1-75 01 01 «Лесное хозяйство».

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ОГЛАВЛЕНИЕ

ПРЕДИСЛОВИЕ

Пособие включает в себя ряд текстов по ботанике, экологии, а также менеджменту лесного хозяйства. Все тексты сопровождаются лексическими упражнениями, способствующими лучшему усвоению и запоминанию профессиональной лексики. С помощью подобного рода упражнений представляется возможным перевести лексические единицы из пассивного словаря в активный, что значительно сказывается на уровне владения языком.

Основной целью издания является формирование у студентов навыка чтения (изучающего, просмотрового, ознакомительного, поискового), умения быстро находить необходимую информацию в тексте, умения грамотно сформулировать свою мысль на иностранном языке, а также увеличение профессионального вокабуляра.

Пособие рассчитано как на аудиторную, так и самостоятельную работу студентов.

Пособие состоит из 13 разделов, каждый из которых содержит адаптированный текст и ряд лексических упражнений, имеющих целью закрепить лексический материал. Каждый раздел начинается с небольшого количества слов, встречающихся в тесте и их перевода. Это упрощает чтение и понимание текста.

Комплексная организация учебного материала и коммуникативная направленность пособия способствуют активизации и совершенствованию навыков практического владения английским языком.

Пособие предназначено для студентов специальностей «Лесное хозяйство», а также будет полезно широкому кругу лиц, изучающих или преподающих английский язык. Оно может быть использовано на уроке, факультативных занятиях и для самостоятельной работы учащихся по биологической, экологической и лесоведческой тематике на английском языке.

1. FORESTS, TREES AND WOOD

Vocabulary
to be altered – подвергнуться изменениям
cellular structure – пористая структура
ratio – соотношение
heartwood – сердцевина дерева
odor – аромат
readily available – легко доступен
renewable resource – возобновляемый ресурс
stem – ствол
soil – почва
to vapor – испарять
bark – кора
deteriorate – ухудшаться

If forests, trees and wood were suddenly not available, the life of people would have to change greatly. Without forests and wood not only our cultural and social life would suffer, the economy of the nation would be altered considerably.

Many of the products flowing into the hands of the consumer cannot be duplicated satisfactorily by any other material, and those which can be duplicated often lack important qualities of the wood.

Why is wood such an important material? Part of the answer lies in the structure and composition of wood, which are responsible for the properties that make wood so useful. The cellular structure gives wood one of the most favorable strength-weight ratio of any common material, and also makes it easier in the heartwood of many woods add durability as well as attractive colors and even pleasant odors. Great variability of wood is actually one of the main reasons for its wide utilization. Another reason why wood is such an important material is that it has always been readily available. The greatest advantage that wood has – it is a renewable resource. With proper management and utilization, the forests can provide the country with wood practically infinitely.

Trees, being plants, fall into the botanical classification system of taxonomic groups-divisions classes, orders, families, genera, and species.

How a Tree Lives.

Trees are woody plants, growing with a single stem. They are the largest members of the plant world, ranging in height from 20 to 300 feet or more, according to species and conditions of growth. Trees may be said to consist of three parts:

– the roots which hold the tree in place and take up from the soil water and certain mineral substances needed for the trees' growth;

– the trunk or stem which supports the crown and supplies it with water and food from the roots;

– the crown. In this part the most important processes are taking place.

The materials upon which a tree feeds are derived from the soil and the water. The roots of a tree absorb water from the soil and with it the necessary nutrition and elements of the soil. The amount of water taken up by the roots is usually much larger than is required in the chemical processes which go on in the leaves. The tree gives away this unused water by a process known as transpiration. Great quantities of water vapor tend to keep the air in the forests humid and favourable to growth.

Like all other plants and like animals trees breathe. The breathing is done through the leaves and the bark. Respiration is the factor supplying the energy with the aid of the green matter in the leaves. The energy is supplied by sunlight; the plant akes up carbon dioxide gas of which there is always a small amount in the atmosphere. The air would deteriorate rapidly if plants did not take up carbon dioxide and give off oxygen.

1. Answer the following questions.

1. What part forests play in the life of mankind?
2. Why is wood such an important material?
3. Into what botanical classification fall all the trees?
4. What parts does a tree consist of?
5. How does a tree gets nutrition?
6. How does a tree breathe?

2. Find in the dictionary and remember the correct pronunciation of the following words:

available; social; alter; answer; consumer; odor; renewable; species; nutrition; quantities; dioxide; oxygen.

3. Say whether these sentences are true or false. Correct the wrong sentences.

1. Without forests and wood not only our life would not suffer.
2. Many of the products flowing into the hands of the consumer cannot be duplicated satisfactorily by any other material.

3. The cellular structure gives wood one of the most favorable strength-weight ratio of any common material.

4. The greatest advantage that wood has – it is a pleasant odor.

5. With proper management and utilization, the forests can provide the country with wood practically infinitely.

6. Trees may be said to consist of four parts.

7. Like all other plants and like animals trees consume oxygen while breathing.

8. The tree gives away unused water by a process known as transpiration.

4. Retell the text using the following plan.

1. The role of forests in modern civilization.
2. The properties that make wood so useful.
3. Main parts of a tree.
4. The nutrition of a tree.
5. The breathing of a tree.

2. ROOT STRUCTURE AND FUNCTION

Vocabulary
dicot – двудольные
taproot – стержневой корень
edible – съедобный
monocot – однодольные
storage – хранение
starch – крахмал
germinate – прорастать
surface – поверхность
fibrous – мочковатый
projection – отросток
particle – частица
fleshy – сочный

The root is the simplest organ of a plant, but it has several important functions. In most plants, a root anchors the plant in the ground. If you have ever tried to pull a weed out of the ground, you know how strong a hold roots can have. Also, a root absorbs water and minerals from soil and then transports them upward to the rest of the plant. A third function of the root is storage of food. Plants often produce more food than they can use. This excess food is often stored in roots in the form of sugars or starches. Beets, carrots, and radishes are a few examples of roots that store food.

The first root to appear when a seed germinates is a primary root. In dicots, this root grows down into the soil and becomes both strong and thick. This mature root in a dicot is called a taproot. A carrot is an edible taproot. Some plants in dry areas have taproots almost 20 metres long. These long roots enable the plants to reach deep sources of water and to survive during hot, dry weather.

As the plant grows, the taproot develops little side branches called secondary roots. These roots help hold the plant more firmly in the ground and increase the root's surface area for absorbing water. A taproot and its smaller secondary roots make up a taproot system.

In monocots, such as grass and corn, the primary root is usually short-lived, and the root system does not develop from this root. Instead, numerous long, thin roots grow from the stem and spread out through the soil. These roots and their side branches are fibrous (fine) roots. No single root is more prominent than the others in a fibrous root system.

Fibrous roots do not grow as deep as taproots. However, they do grow rapidly at a shallow depth and cover a fairly large area. Fibrous roots absorb water and dissolved minerals very efficiently because the total surface area of the root system is quite large. One scientist estimated the surface area of the roots of a single rye plant. Including the roots' hairlike projections, the surface area added up to 639 square metres − larger than the area of a basketball court. Fibrous roots also help hold soil particles together and, as a result, are effective in preventing soil erosion. Some plants have thick fibrous roots that store food just as taproots do. The sweet potatoes that people eat are an example of these fleshy fibrous roots.

1. Answer the following questions.

1. What is the simplest organ of a plant?
2. What are the main functions of the root?
3. What is called a taproot?
4. What advantages gives a long root?
5. What is called a fibrous root?
6. What advantages gives a fibrous root?

2. Finish the sentences according to the text.

1. In most plants, a root anchors...
2. This excess food is often stored in...
3. Some plants in dry areas have taproots...
4. Instead, numerous long, thin roots grow from the stem...
5. Fibrous roots absorb water and dissolved minerals...
6. Some plants have thick fibrous roots...

3. Retell the text using the following plan.

1. Functions of the root.
2. Taproot. Its functions and peculiarities.
3. The difference between taproot and fibrous root.
4. Give your own examples of dicots and monocots, taproot and fibrous roots plants.

3. STEM STRUCTURE AND FUNCTION

Vocabulary
bare – обнаженный
the tip of the stem – кончик стебля
bud – почка
bud scale – почечная чешуя
tissue – ткань
cell – клетка
terminal bud – верхушечная почка
lateral bud – боковая почка
dormant – находящийся в состоянии покоя
node – узел
internode – междоузлие
leaf scar – листовой рубец
shoot apex – вершина побега
bundle scars – рубец от пучка сосудов
vascular tissue – проводящая ткань
leaf stalk – стебелек листа
lenticels – поры
water vapor – водяной пар

The stem of a plant has several important functions. It carries water and minerals to the leaves and the flowers. The stem also transports food between the leaves and the roots. In addition, the stem supports the aboveground parts of a plant.

Examination of a bare woody stem will give you a great deal of information about stems. At the tip of the stem and along the side you will notice several structures called buds. The outer layers of a bud are called bud scales, which are modified leaves that form a protective covering. If you were to peel away the bud scales, you would find a soft mass of green tissue. This tissue is called the shoot apex. In this part of the bud, cell division occurs and new tissues are produced. Notice that new leaves of the plant can form at the shoot apex.

Not all buds are the same. The bud at the shoot tip is called a terminal bud. It usually develops before other buds form. Growth at the terminal bud results in the lengthening of the stem. Leaves and flowers can also arise from the terminal bud. Buds growing along the sides of a stem are called lateral buds. New branches, as well as leaves and flowers, develop from lateral buds.

Each growing season, the terminal bud opens, and the bud scales drop off, leaving a ring of marks around the stem. By measuring the length of the

stem between the bud-scale scars, you can find out how much the stem grew in length each growing season. Buds are dormant between growing seasons.

A node is the place on a stem where a leaf or a bud arises. The sec-tion of the stem between nodes is called an internode. At a node, you can see a leaf scar, the point where a leaf was once attached. Leaf scars can be shaped somewhat like half-moons. If you look closely at leaf scars, you will see tiny spots called bundle scars. These scars are the ends of bundles of vascular tissue that ran from the stem to the leaf stalk.

In many places on the surface of a woody stem, the bark has small, round openings. These holes are called lenticels. Their function is to allow the exchange of gases, such as water vapor, between the atmosphere and the tissues of the stem.

1. Answer the following questions.

1. What are the main functions of a stem?
2. What structures are called “buds”?
3. What kinds of buds can you name?
4. What are the functions of each kind of buds?
5. What is node?
6. What are the functions of the nodes?
7. What are the functions of the lenticels?

2. Match the words (a) with their definitions (b).

a	**b**
lenticels	structures at the tip of the stem and along the side
internode	the bud at the shoot tip
buds	the section of the stem between nodes
terminal bud	small, round openings in the bark
nod	a soft mass of green tissue
bud scales	the place on a stem where a leaf or a bud arises
shoot apex	the point where a leaf was once attached
leaf scar	the outer layers of a bud

3. Finish the sentences according to the text.

1. The... also transports food between the leaves and the roots.
2. Examination of... will give you a great deal of information about stems.
3. If you were to peel... , you would find a soft mass of green tissue.
4. Growth at... results in the lengthening of the stem.

5. Leaf scars can be shaped somewhat like....

6. These scars are the ends of bundles of... that ran from the stem to the leaf stalk.

7. Their function is to allow the exchange of gases, such as water vapor, between the atmosphere and the....

4. Retell the text using the following plan.

1. The functions of a stem.
2. Types of buds.
3. Shoot apex and its functions.
4. Terminal buds and their functions.
5. A node and its functions.
6. Lenticels and their functions.

4. LEAF STRUCTURE

Vocabulary
arrangement – расположение
needle – игла
site – местоположение
blade – листовая пластинка
petiole – черешок
slender stalk – тонкий стебелек
midrib – главная жилка
branch out – разветвляться
the base of the leaf – основание листа
compound leaf – сложная листовая пластинка
to be indented – иметь очертания
leaflet – листочек
pinnate – перистый
palmate – длaневидный
bulb – луковица
pitcher-shaped – кувшиновидный
downward pointing – направленные вниз
plantlets – росток, побег

Leaves vary in shape, size, and arrangement on a plant. You can identify many plants just by studying their leaves. But whether a leaf is needle-shaped, as in pine trees, or broad and flat, as in maple trees, almost all leaves have the same important function. A leaf is a plant's food-manufacturing site, the place where photosynthesis occurs. The structure of a leaf allows it to capture the sun's energy and build complex molecules from raw materials.

The leaves of most dicots have two main parts, a blade and a petiole. The flattened blade is the main part of the leaf. The petiole is a slender stalk that attaches the blade to a stem. In many dicot leaves, the petiole continues into the leaf blade to form the midrib of the blade. A midrib is a major vein that runs down the middle of a blade. Other leaves have several large ribs − or major veins − that branch out through the blade from the petiole. Ribs help support a leaf. All the veins of a leaf contain xylem tubes and phloem tubes. Xylem tubes supply leaf cells with water and minerals. Phloem tubes transport manufactured food from the leaf to other parts of the plant.

Unlike dicot leaves, most monocot leaves do not have petioles. The leaf blade narrows toward the base of the leaf. The blade attaches directly to the stem.

Instead of having a branching network of veins, most monocots have veins that run nearly parallel to each other. Although dicot and monocot leaves differ in appearance, both types of leaves manufacture food for the plant.

Dicot leaves can be either simple or compound. If a leaf consists of a single blade, it is a simple leaf. The leaf edge can be indented in various ways. If the leaf blade is divided into two or more bladelike parts, the leaf is compound. Each part of a compound leaf is called a leaflet. Telling a simple leaf apart from a leaflet is often difficult. However, a bud forms at the base of a leaf where the petiole joins the stem. A bud never forms at the base of a leaflet.

Compound leaves grow in two distinct patterns: pinnate and palmate. Pinnately compound leaves have leaflets attached along a single midrib. Leaves of ash trees are an example of pinnately compound leaves. The leaflets of palmately compound leaves radiate from a central point, like the fingers of a hand.

The structure of some leaves enables them to carry out special functions other than photosynthesis. Some plants, called succulents have thick, fleshy leaves which store water or food. An onion plant is one type of succulent. The onion bulb is made up of food storage leaves, which are attached to a very small stem. When you eat an onion, you are eating leaves.

Some leaves are modified to catch insects. Some plants have pitcher-shaped leaves that are usually filled with water and digestive enzymes. Stiff downward pointing hairs line the inside of the *pitcher*. These hairs allow insects to crawl down into the pitcher but not out again.

The leaves of a few plants produce plantlets which have small leaves and roots. These tiny plantlets separate from the leaf and fall to the ground where they can take root and form new plants.

1. Answer the following questions.

1. What is a leaf?
2. What are the main parts of most dicots?
3. What is the difference between xylem and phloem?
4. What are the distinctive peculiarities of monocot leaves?
5. How simple leaves differ from compound leaves?
6. What special functions can carry out some leaves?

2. Write down 5–7 examples of the following terms:

dicots; monocots; simple leaves; pinnately compound leaves; palmately compound leaves; succulents; predatory plants.

3. Logically organize the sentences according to the text.

1. A midrib is a major vein that runs down the middle of a blade.
2. A leaf is a plant's food-manufacturing site, the place where photosynthesis occurs.
3. Each part of a compound leaf is called a leaflet.
4. Some leaves are modified to catch insects.
5. Compound leaves grow in two distinct patterns: pinnate and palmate.
6. Leaves vary in shape, size, and arrangement on a plant.
7. The leaves of a few plants produce plantlets which have small leaves and roots.
8. Dicot leaves can be either simple or compound.
9. An onion plant is one type of succulent.
10. All the veins of a leaf contain xylem tubes and phloem tubes.
11. The blade attaches directly to the stem.

4. Retell the text using the following plan.

1. The main functions of leaves.
2. Dicot leaves structure.
3. Monocot leaves structure.
4. Simple leaves and compound leaves.
5. Special functions of the leaves of some plants.

5. MOST TREES GROW FROM SEEDS

Vocabulary
acorn – желудь
lumber – пиломатериалы
paper mulberry – шелковица бумажная
white mulberry – шелковица белая
dogwood – кизил
man-made propagation – искусственное воспроизводство
hickory – гикори
persimmon – хурма
dioecious – двудомный
alder – ольха
monoecious – однодомный
pollen – пыльца
pistil – пестик
buckeye – американский конский каштан
drupe – косточковый плод
pulpy fruit – мякотный плод
samaras – крылатка
maple – клен
perfect flower – обоеполый цветок

While scientists have discovered many things in the field of biology, yet the growth of plants remains something of a miracle. Who can tell by what power an acorn which has dropped to the ground today will be a massive tree thirty years later? Who knows the secret of how a tiny pine seed can develop into a tree a hundred feet in height, containing enough lumber to build a small house? In general way, however, we understand what takes place, even though we cannot tell why it happens in the peculiar manner characteristic of each species.

Not all trees are produced from seeds. Some, like the white or paper mulberry, grow from shoots. Others, like the pink dogwood, are the results of man-made propagation methods. But most trees, including oak, pine, hickory, and persimmon, grow from seeds.

In the study of how trees grow, it is logical to begin with the seed. So, let us study an oak – beginning with the tiny particle of pollen and following it until we finally have a magnificent forest giant. The spark of life which produces an acorn is found in the base of an oak flower. Trees have flowers

and most trees belong to one of three groups. Some, like the sumach, have male and female flowers on different plants. This class is known as dioecious. Some trees, like the alder or the oak, have both male and female flowers on the same tree but in different clusters. These trees are known as monoecious. Other tree species, as the wild cherry and magnolia, grow perfect flowers, in which both male and female are present in one flower.

The male flower or male portion of a flower produces pollen. The female flower or the female part of a flower contains the pistil. This pistil receives the pollen and passes it down the long green tube to the place where the seed is born. The pollen gives the seed its spark of life. When the flower is gone and the pistil has withered and fallen off, the seed appears.

Seeds occur in many forms and in many different kinds of coats, each characteristic of the tree which has given it birth. Some pines have cones, the buckeye has a hard shell, the wild cherry and persimmon seeds are protected by a bitter acid until the seeds are mature enough to carry on the spark of life. Seeds and their coats are known by various names. Naturalists call the wild black cherry a drupe, and the persimmon a juicy berry. The seeds of the apple are contained in a pulpy or fleshy fruit and the ash and maple have samaras. The mulberry is called an aggregate fruit because of its cluster of edible tidbits. The seed of the nut-tree is known as a nut.

Seeds of some trees are developed in one year and some are developed over a longer period. But when the seeds have finally become ripe and the tree is ready to release them – it releases them in large numbers, for only a few will survive.

1. Answer the following questions.

1. From what most trees are produced?
2. At what groups all trees can be divided?
3. What type of trees is called dioecious?
4. What type of trees is called monoecious?
5. How a seed is produced?
6. What kind of seed forms do you know?

2. Find Russian names of the following trees and divide them into 3 groups, according to the type of flowers:

acacia; alder; ash; aspen; beech; birch; chestnut; cypress; elder; elm; fir; hazel; hornbeam; linden; maple; oak; poplar; rowan; willow.

Monoecious	Dioecious	Perfect flower

3. Say whether these sentences are true or false. Correct the wrong sentences.

1. All trees are produced from seeds.
2. White or paper mulberry, grow from shoots.
3. An oak – beginning with the tiny particle of pollen and following it until we finally have a magnificent forest giant.
4. Trees have flowers and most trees belong to one of four groups.
5. When the flower is gone and the pistil has withered and fallen off, the seed appears.
6. The seeds of the apple are contained in a nut.
7. The mulberry is called an aggregate fruit because of its cluster of edible tidbits.
8. Seeds of all trees are developed in one year.

4. Retell the text using the following plan.

1. The production of a seed.
2. The process of seed production.
3. Types of flowers.
4. Types of seed coats.

6. FOREST HEALTH

Vocabulary
boreal coniferous forest – северный хвойный лес
to afforest – засадить лесом
propensity for regeneration – склонность
impoverishment – истощение
adversely – неблагоприятно
precipitation – выпадение осадков
sulphur – сера
nitrogen – азот
canopy – лесной полог
acidification – закисление
acidifying emissions – кислотный выброс
hinder – препятствовать
sample plot – пробная площадка
impurities – примеси

The tree species in the boreal coniferous forest (taiga) are species that afforest open ground and that are adapted to climatic fluctuations and forest fires. They withstand disturbance from both nature itself and people rather well.

The boreal coniferous forest and its natural propensity for regeneration are not threatened by the appearance of treeless areas, erosion, monocultures, or impoverishment of the ecosystem when the forests are managed properly. However, studies on the state of the environment indicate that air pollutants are adversely affecting forests all over Europe. In Finland, the forests in the southern part of the country in particular are exposed to loading by precipitation due to long distance transportation both from abroad and from Finland. Pan-European concern for the state of health of the forests on the European continent led to the UN's2 European Economic Commission and the European Union setting up a continuous monitoring programme in the mid-1980s. This involves especially monitoring the condition of the canopy and tree foliage, as well as the soil.

Despite harmful sulphur and nitrogen precipitation exceeding the so called critical load in forests close to Finland's urban centres, no acidification of the soil has been detected in studies in the regions dedicated to forestry. The critical load means the maximum possible load which over the long term does not have any harmful effects on fundamental ecosystem characteris-tics. However, it has been predicted that soil acidification will advance unless acidifying emissions and precipitation are not brought radically under control. In forest management, the progress of acidification can be hindered by prescribed burning and by increasing broadleaf growth.

According to the report, published in 1998, a steady growth in the incidence of needle and leaf loss has been observed over large parts of Europe, for which air pollutants and long periods of dryness are in one way or another responsible, particularly in southern Europe. By contrast, recently the state of tree crowns has improved in areas where the amount of air pollution has declined, or where weather conditions have been more favourable. The chemical composition of the soil leads us to believe that around 20 % of the sample plots may become affected by the adverse acidifying effect of nitrogen, sulphur and heavy metal precipitation from the atmosphere. It is also apparent from the state of the tree crowns that in a comparatively large number of plots the sulphur concentration is low, whereas the nitrogen concentration is high.

Both national and international monitoring schemes indicate that air impurities constitute a stress factor to forests growing in Finland's extreme climatic conditions and on infertile soils. So far, the overall health of Finnish forests has been good. The main reason for uncertainty in regard to the future is the development in the amount of emissions.

1. Answer the following questions.

1. What is called boreal coniferous forest (taiga)?
2. What factors are adversely affecting forests all over Europe?
3. What is called the critical load?
4. How the state of tree crowns has improved in areas where the amount of air pollution has declined?
5. What indicates national and international monitoring?

2. Find in the table following words:

sulphur; nitrogen; urban; canopy; taiga; leaf; forest; foliage; boreal; soil.

S	O	I	L	G	C	X	M	F	Q
U	G	T	L	C	A	N	O	P	Y
L	E	A	F	O	L	I	A	G	E
P	A	I	O	P	B	X	I	A	B
H	Z	G	R	T	O	Q	M	Z	M
U	W	A	E	C	R	H	U	Q	T
R	Y	A	S	Z	E	V	R	W	M
U	K	C	T	W	A	Z	B	K	E
B	L	R	Z	L	L	Z	A	J	T
N	I	T	R	O	G	E	N	Z	H

3. Say whether these sentences are true or false. Correct the wrong sentences.

1. The boreal coniferous forest withstand disturbance from people.
2. Air pollutants are adversely affecting forests all over Europe.
3. In Finland, the forests in the nortern part of the country are exposed to loading by precipitation due to long distance transportation.
4. Finland's rural areas, no acidification of the soil has been detected in studies in the regions dedicated to forestry.
5. A steady growth in the incidence of needle and leaf loss has been observed over large parts of Europe.
6. Recently the state of tree crowns has improved in areas where the amount of air pollution has declined.
7. Monitoring schemes indicate that air impurities constitute a stress factor to forests growing in Finland's extreme climatic conditions and on infertile soils.

4. Retell the text using the following plan.

1. The definition of boreal coniferous forest.
2. The main factors, that influence boreal coniferous forest.
3. Forest condition in Finland.
4. International concern in forest protection.

7. FORESTRY ADVANCES

Vocabulary
forestland – лесной массив
wilderness – дикая местность
to compile – составлять
reforestation – восстановление лесов
to log – вырубать
seedling – саженец
to devastate – опустошать
lumber – пиломатериалы
scrap – щепа
sawdust – древесные опилки
rug – коврик
extinct – вымерший
to enhance – улучшать
municipal ordinances – постановления властей

One-third of the United States is covered with forests. How have they been doing over the past century? The country has more trees now than it did in 1920 on approximately the same amount of forestland. It also has the largest legally protected wilderness system in the world, while at the same time sustaining a highly productive and efficient wood products industry. The Society of American Foresters, the national scientific and educational organization of the forestry profession, has compiled a list of forestry-related advances in the United States over the past century.

Reforestation. Until the 1920s, forests were generally logged and abandoned. Now, across the country an average of 1,7 billion seedlings are planted annually. That translates into 6 seedlings planted for every tree harvested. In addition, billions of additional seedlings are regenerated naturally.

Fire protection. Wildfire is extremely dangerous for forest ecosystems. At the turn of the century, wildfires annually burned across 20 to 50 million acres of the country each year, with devastating loss of life and property. Through education, prevention, and control, that amount has been reduced to about 2 to 5 million acres a year − a reduction of 90 % − while fire's contributions to forest health have also been studied and better understood.

Affordable products and reduction in waste. Today, advanced technology allows us to use every part of the tree for products. In addition to

lumber and paper coming from the trunk of the tree, bark, resins, cellulose, scraps, and even sawdust are turned into products that range from camera cases for medicines to rugs.

The return of wildlife. Species such as whitetail deer, wild turkeys, and wood ducks were almost extinct at the turn of the century. Wildlife conservation and habitat enhancement has resulted in flourishing populations of these and other species we now take almost for granted. Now, foresters are working with other professionals to improve habitats and ensure survival of other wildlife species.

Wilderness protection. America's first wilderness areas were established by the US Forest Service in the 1920s. Forty years later, the Wilderness Act of 1964 gave legal protection to 9 million acres of wilderness. There are now 95 million acres in the wilderness system, and 149 million more acres of land in parks, wildlife refuges, and other special, set-aside places. No other country in the world comes close to this amount of legally designated set-aside land.

Urban forestry. Municipal ordinances, civic participation, and the growth of urban forestry have resulted in the planting and maintenance of millions of trees in the country's cities and towns, enhancing quality of life while saving energy costs and usage.

Research. Decisions made about US forests a century ago were based on what worked in Europe. Since then, forest scientists in the United States have conducted research to control insect and disease, improve growth rates, enhance soil and water conditions, and to understand other variables that have made US forests among the most productive, sustainable, and healthy in the world.

1. Answer the following questions.

1. What per cent of the total area does forest occupy in the United States?
2. What authorities participate in forest protection?
3. How did change the methods of forest consumption over the past century?
4. What technologies are used in the American forestry nowadays?
5. What damage does forest fire cause?
6. What species of animals did survive due to habitat enhancements?
7. What measures does the government take in order to protect American forests?

2. Match the words (a) with their definitions (b).

a	b
lumber	land covered with forest or reserved for the growth of forests
wildfire	the action of renewing forest cover
to compile	wood that has been cut into various lengths for building
urban	a very young plant that has grown from a seed
seedling	to collect information from different places and arrange it in a book, report, or list
forestland	connected with a town or city
maintenance	a fire that is burning strongly and out of control
reforesation	the act of keeping something in good condition by checking or repairing it regularly

3. Logically organize the sentences according to the text.

1. Today, advanced technology allows us to use every part of the tree for products.
2. Act of 1964 gave legal protection to 9 million acres of wilderness.
3. One-third of the United States is covered with forests.
4. America's first wilderness areas were established by the US Forest Service in the 1920s.
5. Today, advanced technology allows us to use every part of the tree for products.
6. That translates into 6 seedlings planted for every tree harvested.
7. At the turn of the century, wildfires annually burned across 20 to 50 million acres of the country each year, with devastating loss of life and property.
8. No other country in the world comes close to this amount of legally designated set-aside land.
9. Decisions made about US forests a century ago were based on what worked in Europe.

4. Retell the text using the following plan.

1. The history of the American forestry.
2. Reforestation.
3. Fire protection.
4. Wilderness protection.
5. Research.

8. FOREST PROTECTION

Vocabulary
biodiversity – биоразнообразие
stakeholder – акционер
ongoing – текущий
overall – в целом
silviculture – лесоводство
key biotopes – основной биотоп
to be subjected to – подчиняться
tree stands – древостой
gentle cutting – выборочная рубка
watercourses – поток, река, течение
brook – ручей
exposed bedrock – выходящая на поверхность материковая порода
endangered species – виды, находящиеся под угрозой вымирания
increment – прирост
to annex – присоединять

In keeping with international conventions, including the Rio convention on biodiversity, Finland is committed to protecting biodiversity in its ecosystems. Two ministries are responsible for Finland's natural resources and their development, i. e. the Ministry of Agriculture and Forestry and the Ministry of the Environment.

On the basis of the international conventions, both ministries approved an Environmental Programme for Forestry in 1994, which was prepared as a result of cooperation across a broad spectrum of stakeholders. This strategic framework set out the objectives and procedures to be used in the sustainable management of Finnish forests up to the year 2005. Significant steps forward in the ongoing development and follow-up process have taken place, in the form of a recent revision of the forest and nature conservation legislation and the establishment of extensive protection programmes, as well as a programme for their overall financing. The progress was monitored.

In accordance with the framework of the Environmental Programme for Forestry in Finland, the enhancement of biodiversity in forests consists of two parts; on the one hand, the complete protection of forests and, on the other hand, silvicultural methods applied in commercial forests. Ecological values and wood production objectives are taken into consideration in the boreal coniferous forest zone by using a form of silviculture which keeps to the natural cycle of the forests as closely as possible.

Finland's reformed forest and nature conservation legislation provides a good starting point for the inclusion of natural values when managing all forests that are being grown for commercial use. The forest and nature conservation legislation specifies valuable habitats, called key biotopes, which have to be entirely in their natural state left or subjected to gentle cutting. Such biotopes include herb-rich woodlands, tree stands fringing springs, brooks and other watercourses, forests standing on eskers, tree growth on exposed bedrock, and habitats where endangered species occur.

According to a survey carried out on a cooperative basis by organizations from the forest and environmental sectors, Finland has over 2,4 million ha of forest and land which is now either protected to varying degrees or on which forestry practices are subject to constraints. This represents 10,6 % of the total area of forest land with increment of more than 0,1 mVha/year. More than 1,5 million ha, i. e. 6,6 %, of the total area of forest land is strictly protected, meaning that the forests are not subjected to silvicultural practices at all, but are allowed to develop freely according to the forces of nature. In Finland, such forests can be found in strict nature reserves, national parks and old-growth forest protection areas annexed from commercial stands. Making international comparisons on the proportion of protected forests is difficult, owing to the fact that the definitions used by different countries vary a lot.

1. Answer the following questions.

1. What authorities are responsible for Finland's natural resources and their development?
2. What measures did the Environmental Programme for Forestry include?
3. What parts does the enhancement of biodiversity in forests consists of?
4. What form of silviculture should be used in the boreal coniferous forest zone?
5. What biotopes does the forest and nature conservation legislation specify?
6. What did a survey made by the forest and environmental organizations show?
7. What does the term "strictly protected forest land" mean?

2. Find in the table following words:

ecosystem; survey; herb; natural; measure; biotope; cutting; brook; tree stands; esker.

N	E	C	O	S	Y	S	T	E	M
A	B	G	M	U	F	K	X	A	N
T	I	H	E	R	B	R	O	O	K
U	O	X	J	V	I	W	C	V	U
R	T	A	M	E	A	S	U	R	E
A	O	V	J	Y	W	J	T	Z	I
L	P	W	H	X	J	X	T	U	X
G	E	S	K	E	R	E	I	A	F
T	R	E	E	S	T	A	N	D	S
A	G	N	G	X	B	F	G	V	N

3. Finish the sentences according to the text.

1. Two ministries are responsible for Finland's natural resources and their development, i. e...
2. ...to be used in the sustainable management of Finnish forests up to the year 2005.
3. In accordance with the framework of the Environmental Programme for Forestry in Finland...
4. ...which keeps to the natural cycle of the forests as closely as possible.
5. More than 1,5 million ha, i. e. 6,6 %, of the total area of forest land is strictly protected...
6. ...is difficult, owing to the fact that the definitions used by different countries vary a lot.

4. Retell the text using the following plan.

1. Forestry authorities in Finland.
2. Steps forward in the ongoing development.
3. The enhancement of biodiversity in forests.
4. The results of a survey.

9. SUSTAINABLE FORESTRY IN THE UNITED STATES

Vocabulary
extensive forest – обширный лес
yield benefits – терпеть убытки
runoff – объем стока
renewable resource – возобновляемый ресурс
terrestrial carbon store – земной запас углерода
sequestering carbon – связывающий углерод
imperative – срочный
exact toll on – причинять вред
livestock grazing – выпас скота
flue wood gathering – заготовка дров
resilient – устойчивый
aspiration – желание
to detract from – уменьшать
timber – древесина

Forests are major ecosystems. About a quarter of land worldwide is forested; around a third in the US, and nearly half in both Oregon and Washington. Extensive forest cover is primarily found in the Rocky mountains and to the west and east of the Mississippi.

These forests are vital for life, and yield many benefits: One-third of the land in the US currently has forest cover, and two-thirds of the runoff used for water supply comes from these forested lands; they offer extremely high-quality water.

Wood products are derived from an environmentally superior material. A truly renewable resource (when harvested sustainably), products from wood are typically produced with less energy than an equivalent product made from non-wood resources (e. g. metal and cement). Forests are a major component in Earth's life support system, and they provide essential habitats for innumerable organisms.

Less than 40 % of terrestrial carbon stores are found in forests, but wood products account for even more. Forests, in addition to sequestering carbon, are net producers of oxygen.

Forests represent different things to different people, most people value forests in many different ways. Even in the new millennium people find jobs, a quality of life, recreation, subsistence living, and a myriad of cultural and spiritual values based on the forest resources.

Forests are as dynamic as the human societies dependent on them. There are many forces of global change that has made the search for sustainability more imperative. Population growth, lifestyle choices, increasing demand, clearing of forest for agriculture, fuel wood gathering, livestock grazing, altered fire regimes, unsustainable harvests, water diversions, heavy recreation, urbanization, alien species introduction and native species extinction, air and water pollution, forest fragmentation.

Forces of change will present an ever-changing context for sustainability. The challenge in forestry will be to keep forest lands in forest use and keep the diversity of values, uses, products, benefits, and services of forest ecosystems productive and resilient in the face of forces of global change.

Much of the pressure placed on the forest resources is the result of an ever-growing population. We need to consider human population growth as we define sustainable forestry. With population growth we will be expected to produce more products from a smaller and smaller resource base. The future reality is that smaller forest area must serve more people in more ways, and the future reality must be met by forest management that targets sustainability.

The concept of sustainability is captured nicely in the definition given by the Society of American Foresters: enhance human well being by using, developing and protecting resources at a rate and in a manner that enables people to meet their current needs while also providing future generations with the means to meet their needs as well; simultaneously meet environmental, economic and community aspirations.

Currently, the needs are quite significant when we discuss wood use. Worldwide, industrial wood use has increased 50 % since 1960, to 53 billion cubic feet per year. 75 % of the industrial wood is used by 24 % of the world's people.

Mixed forest ownership adds to the complexity of sustainable forestry. Not every forest land owner or manager has the same management objectives, so each will add or detract from sustainability goals (social, economic, and ecological) to varying degrees. For example, the federal government owns nearly half the forestland in Oregon, where in the early 1990s federal managers have reduced the timber harvest. Industry lands, although smaller in area than public forests, produce the majority of timber in Oregon.

Speaking of mixed forest ownership, not every forest landowner owns the same quality of forest land. The majority of the most productive forest land is privately owned; the majority of low production lands are publicly owned.

1. Answer the following questions.

1. What part of the country do forests occupy in the USA?
2. What benefits do people get from forests?
3. What forces influence forests?
4. What problems will people face in the future?
5. What precautions can be made for forest protection?

2. Give Russian equivalents to the following words and word combinations:

wood products; water supply; environmentally superior; non-wood resources; to target sustainability; rate; to own; diversity of values.

3. Say whether these sentences are true or false. Correct the wrong sentences.

1. About a half of land worldwide is forested.
2. Forests are vital for life, and yield many benefits.
3. Dairy products are derived from an environmentally superior material.
4. Much of the pressure placed on the forest resources is the result of an ever-growing population.
5. The modern reality is that smaller forest area must serve more people in more ways.
6. Mixed forest ownership adds to the complexity of sustainable forestry.

4. Retell the text using the following plan.

1. The total area of the forests in the USA.
2. Forests in the life of people.
3. Problem that forests meet today.
4. Forests of the future.
5. How people can save forests.

10. CLASSIFICATION OF THE WORLD FORESTS

Vocabulary
specificity – особенность
longevity – долговечность
deciduous – лиственный
density – густота
lavish – обильный, богатый
ample – обширный
rubber seeds – семена каучука
oil seeds – семена масличных культур
canopy – купол
spruce – ель
fir – пихта

Forests can be classified in different ways and to different degrees of specificity. One such way is in terms of the biome in which they exist, combined with leaf longevity of the dominant species (whether they are evergreen or deciduous). Another distinction is whether the forests are composed predominantly of broadleaf trees, coniferous (needle-leaved) trees, or mixed. Depending upon the species developed with the age of forests, soil found in those forests, the density of trees and history of the geological region, however, forests are divided into following main types: tropical forest and subtropical forest; plantations; boreal forest; temperate forest; seasonal or monsoon forest.

Tropical and subtropical forests, also known as rainforests or tropical rainforests, are lavish and ample forests with broadleaf trees. They often include tropical and subtropical moist forests, tropical and subtropical dry forests, and tropical and subtropical coniferous forests. They are mostly found near the equator. These forests are evergreen and remain the same throughout the year. These forests form a dense and thick upper layer of foliage. Tropical forests are home to more than half of the species of animals and plants dwelling on the earth.

Plantations can also be classified as a type of forest. Plantations are actually a large piece of land used for cultivation. Plantations are usually developed in tropical and subtropical regions. These crops include rubber seeds, oil seeds, sugar cane, cotton, tobacco and coffee. Plantations done for industrial purpose is called forestry. It is done to get larger amount of wood in a shorter span of time.

Boreal forests are also known by name Taiga. The word “Boreal” means “northern” and can be easily found on latitude 50 to 60. Temperature in these forests is usually low, as the canopy allows very low sunlight to penetrate. Low penetration of light along with low temperature is responsible for limited under story. Soil of these forests is poor-nutrient and thin. Trees like pine, spruce and fir are most likely to be found in these forests which are cold-tolerant and evergreen in nature. A number of animal species also found in these forests which includes bears, bats, woodpecker, hawks deer, fox and many other that could tolerate low temperature.

Temperate forests can be found on both hemispheres on latitude approximately 25 to 50 in regions of northeastern Asia, North America, western and central Europe and can be categorized as deciduous as well as evergreen. They have all four seasons: summer, spring, winter and fall. Soil of these forests is fertile and rich. Trees of these forests are broad leafed trees including those which change their foliage every year like oak, maple, beech, hemlock, cotton wood, elm and so on. Animal species found in these forests are birds, rabbits, squirrels, wolf, black bear, mountain lion and lynx.

Seasonal or monsoon forests are also known as dry forests. These forests go through two extreme seasons: the season of heavy rainfall and a long season of complete dryness. Forests of this type can be found in Southeast Asia, West and East Africa, eastern Brazil and northern Australia. Trees of these forests include woody vines, orchid and many others like; lianas and herbaceous epiphyte, thick bamboos and tall teak trees. These forests are highly threatened in West Africa and all round the world by cultivation.

1. Answer the following questions.

1. According to what categories are usually classified forests?
2. What are the peculiarities of tropical and subtropical forests?
3. What is called plantation?
4. What is the other name of boreal forests?
5. What are the peculiarities of temperate forests?
6. What are the peculiarities of seasonal or monsoon forests?

2. Divide the following species into 5 groups according to their habitat:

sugar cane; teak tree; hawks deer; banana tree; beech; elm; bamboo; red cedar; lynx; macaw; jaguar; orchid.

Tropical and subtropical forests	Plantations	Boreal forests	Temperate forests	Seasonal or monsoon forests

3. Finish the sentences according to the text.

1. ...combined with leaf longevity of the dominant species.
2. Another distinction is whether the forests are... .
3. ...also known as rainforests or tropical rainforests, are lavish and ample forests with broadleaf trees.
4. Plantations done for industrial purpose is called... .
5. ...can be easily found on latitude 50 to 60.
6. A number of animal species also found in these forests which includes...
7. Temperate forests can be found on both hemispheres on latitude... .
8. Forests of this type can be found in... .

4. Retell the text using the following plan.

1. Different classifications of the forests.
2. Tropical and subtropical forests.
3. Plantations.
4. Boreal forests
5. Temperate forests
6. Seasonal or monsoon forests

11. RAGE AGAINST THE DYING OF THE FORESTS

Vocabulary
forcible – насильственный
body of water – водоем
asset – собственность
flood risk – угроза наводнения
to dilate – расширяться
scarce – скудный, редкий
exhausted – истощенный
sulphuric acid – серная кислота
logging – заготовка леса
hazardous – опасный
abundance – изобилие

The air, water and soil are not the only victims of man's forcible intrusion. The purity of the air and the preservation of bodies of water and soil largely depend on the conservation of forests.

Forests – boreal, coniferous, temperate and tropical rainforests – cover 30 % of the earth's land surface. They are one of the Earth's best assets. They absorb carbon dioxide and exhale oxygen, acting as the lungs of our planet, control (moderate) the climate, prevent soil erosion, reduce flood risk and serve as genetic banks for a wondrous diversity of plant and animal life.

Let us look at what is now happening to the humankind's most valuable possession. At the close of the 20th century the world finds itself undergoing the most rapid and complete deforestation it has ever experienced under the human hand. The world's forestry resources are shrinking at an alarming rate. Population increase has led communities to dilate outwards by clearing forests, as growth of cities often means expansion into timbered areas and croplands. More and more forests are turning into houses and the fuel to heat these houses. Land is becoming increasingly scarce, and as a result, forests are being destroyed.

Unfortunately, today the forest is viewed only as a source of raw materials for various branches of economy. Apparently, there is no sphere of human activity or industry which does not need timber. Despite the success registered by chemistry and the advent of new synthetic materials, there is a steady growth in the world consumption of wood products.

The forests have always been generous with their riches – so far as they are able. But they are not limitless. They are being exhausted and the

habitats of innumerable other species of both flora and fauna are destroyed as a side effect.

Deforestation is provoked by a number of factors. But it is not only the deliberate felling of trees which is reducing the world's tree cover; trees are also disappearing because of pollution. Acid rain kills plants and trees. In California in the USA, for example, over a million trees are dead or dying because of smog from the big cities affecting them. In Scandinavia many trees similarly affected by sulphuric acid emissions from power stations and factories in Britain being blown across the North Sea. Nearly half of all trees in Germany are diseased. Polluted streams poison the forest from the inside. Dust, accumulated on leaves, interferes with the process of photosynthesis. Trash, which people leave in the forest, hurts forest inhabitants. Yet logging remains the primary cause of forest destruction.

The most hazardous thing about deforestation is that forestry appears to be an irrecoverable natural resource. Replanting doesn't guarantee survival. Without the shady canopy of big trees and the moist forest floor to nourish them, nursery seedlings are bound to die on parched clear cuts. So when industry claims planting ten seedlings for one tree cut, it means absolutely nothing for the forest. A hundred-year-old tree cannot be replaced by ten seedlings.

Steady loss of natural forest leads to the loss of animal habitat and decline in animal diversity and abundance. A complex product of the centuries of evolution, forests may be gone forever. It means that the humanity must apply all its efforts now, until it is too late. Taught by the results of our negligence, we have finally come to realize that man must look after the world, or there will be no world to look after.

1. Answer the following questions.

1. What per cent of the earth's land surface do forests cover?
2. What ecological problems can forests solve?
3. What changes did forests undergone during the latest centauries?
4. What factors did deforestation provocate?
5. Why replanting can't stop deforestation?

2. Find in the table following words:

species; coniferous; nourish; sulphuric; exhaust; fauna; flora; oxygen; seedling; soil; habitat; scarce; acid; shady.

C	S	U	L	F	U	R	I	C	O
O	H	S	H	A	D	Y	V	H	X
N	S	P	E	C	I	E	S	A	Y
I	N	X	X	I	J	W	E	B	G
F	O	Y	H	D	S	N	E	I	E
E	R	F	A	U	N	A	D	T	N
R	I	L	U	S	H	H	L	A	Z
O	S	O	S	O	I	L	I	T	U
U	H	R	T	G	M	Z	N	Z	J
S	C	A	R	S	E	S	G	R	Y

3. Logically organize the sentences according to the text.

1. The world's forestry resources are shrinking at an alarming rate.
2. Steady loss of natural forest leads to the loss of animal habitat and decline in animal diversity and abundance.
3. The air, water and soil are not the only victims of man's forcible intrusion.
4. Deforestation is provoked by a number of factors.
5. More and more forests are turning into houses and the fuel to heat these houses.
6. So when industry claims planting ten seedlings for one tree cut, it means absolutely nothing for the forest.
7. Acid rain kills plants and trees.
8. A complex product of the centuries of evolution, forests may be gone forever.

4. Retell the text using the following plan.

1. Ecological problems that face forestry.
2. The problems of the deforestation.
3. Factors of deforestation.
4. The circumstances of the steady loss of natural forest.

12. WHY ARE PEOPLE CUTTING

Vocabulary
annual – ежегодный
estimate – оценка, подсчет
hardwoods – лиственные породы
mahogany – красное дерево
drag away – оттащить
demand – потребность

The tropical rainforests are rapidly being cut down. The forests of West Africa have almost disappeared over the past 40 years, 4 million hectares are lost each year. Cote d'Ivoire has lost 90 % of its original forest and woodlands. The forest cover of Brazil has been lost at an average annual rate of about 19,000 km^2 over the last 20 years. According to the most conservative estimate, all the rainforests in the world will be gone in less than a century unless the rate of felling slows down. A more realistic estimate is 30 years. So, what are the burning reasons that drive men to destroy these unique forests?

The commonest cause of tree felling is commercial logging. Most of the trees from the rainforests are sold to the timber industry of industrialized countries. Tropical hardwoods such as mahogany are strong, attractive and hardwearing. They are used in rich countries to make luxury furniture, doors and window frames. But much of the wood is not made into durable products. It is made into cheap, throwaway goods, i. e. paper or chopsticks. The destruction of rainforests for the timber trade sometimes involves political corruption. In many developing countries a person must get a license from the government before he can cut down trees. Government officials give out these licenses to members of their own families or in return for "favors" from business people.

The multinational timber companies often make roads deep into the forests so that they can drag the logs away. They may only cut down a few trees themselves, but their roads make the forests accessible to local farmers. These farmers cut down trees to create new cropland, or even simply for fuel. It is a great tragedy that large areas of the Amazon forests have been wasted as firewood!

Tree felling for firewood is also a problem in the temperate forests. Over 85 % of all the wood cut in the Third World is used for fuel. Wood provides more energy in the developing world today than the total energy from fossil fuels, nuclear fuels and alternative energy sources.

The largest cause of the destruction of rainforests is probably the creation of grazing land to feed cattle. The growth of the fast food industry in the 1970s created a demand for cheap beef for making hamburgers. In the late 1970s, in return for a large loan from the international banks, the Costa Rican government removed thousands of hectares of rainforest by the infamous slash-and-burn technique to provide grazing land for export cattle. Other countries soon saw the profit they could make from cattle farming and began to cut down their own rainforests. According to one estimate, half of the world's rainforests have already been cut down to make space for the meat industry, and approximately half a metric ton of vegetation is destroyed for every hamburger eaten.

Indeed, man has learnt to put wood to effective and diversified use. But will he be able to protect our monumental inheritance?

1. Answer the following questions.

1. How fast the rainforests are being cut down?
2. What are the reasons that drive men to destroy these forests?
3. Why do farmers cut down trees?
4. What kind of corruption takes place in developing countries?
5. What is the largest cause of the destruction of rainforests?

2. Match the words (a) with their definitions (b).

a	**b**
corruption	a forest in a tropical area that receives a lot of rain
rainforest	the activity of cutting down trees in order to use their wood
cattle	strong, heavy wood or the tree it comes from
grazing	illegal, bad, or dishonest behaviour, especially by people in positions of power
logging	a group of animals that includes cows, buffalo, and bison, that are often kept for their milk or meat
slash-and-burn	land where farm animals feed on grass
hardwood	something you do to help someone, often after being asked to
favor	relating to a type of farming that involves cutting and burning trees, crops, etc. before planting new ones

3. Logically organize the sentences according to the text.

1. The largest cause of the destruction of rainforests is probably the creation of grazing land to feed cattle.
2. The tropical rainforests are rapidly being cut down.
3. According to one estimate, half of the world's rainforests have already been cut down to make space for the meat industry.
4. Over 85 % of all the wood cut in the Third World is used for fuel.
5. According to the most conservative estimate, all the rainforests in the world will be gone in less than a century.
6. Most of the trees from the rainforests are sold to the timber industry of industrialized countries.
7. The growth of the fast food industry in the 1970s created a demand for cheap beef for making hamburgers.

4. Retell the text using the following plan.

1. The statistics of rainforests cut down.
2. The corruption in the commercial logging.
3. The usage of the wood for fuel.
4. The influence of agriculture.

13. WHY DO WE NEED TO CONSERVE THE RAINFORESTS

Vocabulary
lungs – легкие
the greenhouse effect – парниковый эффект
fossil fuel – ископаемое топливо
fragile – хрупкий
devastating effects – разрушительные последствия
to evaporate – испарять
micronutrients – питательные микроэлементы
tribe – племя

First, because the rainforests are the lungs of the world. They take in carbon dioxide and give out oxygen by photosynthesis.

The loss of vegetation in the rainforests magnifies the greenhouse effect. We are producing more and more carbon dioxide from burning fossil fuels. The capacity of the rainforests to absorb this environmentally toxic gas is becoming ever more crucial. Second, the rainforests are the world's most important means of storing water. The trees soak up water in the rainy season and slowly release it into the ground and rivers. This protects the fragile soil from the potentially devastating effects of tropical storms. The rainforests supply water to the rivers during the dry season. If they did not do this, many rivers would disappear in the dry season and become raging torrents in the rainy season, flooding the nearby fields and washing away the soil.

Third, the rainforests control the climate. Seventy five percent of the rain that falls on the tropical rainforests enters the trees from the soil by transpiration and then evaporates from the surface of the leaves. (The other 25 percent of the rainwater stays in the soil and enters the rivers as run-off). These two processes are known together as "evapotranspiration." The heat energy required to evaporate the water from the forests cools the equatorial regions. The clouds formed by the water vapor also cool the land by reflecting solar radiation back into space. These clouds are carried to cooler parts of the earth by natural convection, where they release warm rain which raises the temperature in these areas. If the rainforests disappear, so will the rain. Without the rainforests, the temperature difference between the tropics and the temperate zones would be far greater.

Fourth, the rainforests are a reservoir of micronutrients. Tropical rainforests usually grow on poor soil. Most of the essential nutrients are stored not in the soil but within the trees themselves. The roots of the trees, which make up about 60 percent of their mass, do not grow deep into the soil. They spread out and form a thick network a few meters beneath the surface. These shallow roots absorb free nutrients released from the thick layer of decaying vegetation on the forest floor. Recycling of these nutrients is crucial to the survival of the ecosystem that the rainforests support. When the trees are cut down, vital nutrients are washed away with the run-off and a whole ecosystem quickly dies.

Fifth, the rainforests, and the ecosystems that they support, are an important source of raw materials for many different industries. They supply us with hundreds of useful products.

One very important benefit is the supply of medicinal plants. About 80 percent of all traditional herbal medicines and 25 percent of modern Western medicines are extracted from plants that grow in the rainforests. We do not know how many more important medicines are lying undiscovered within the rainforests. Loss of plant species within the rainforests will mean that many lifesaving drugs will never be discovered.

One last – and very important – reason for conserving the rainforests is that they are the home of several million people, who still live in primitive tribal societies within the forests. We have both a moral and a scientific duty to protect the homelands of these unique and fascinating societies. The tribal people are more than an anthropological curiosity. They are the key to the living resources of the rainforests.

1. Answer the following questions.

1. How does the rainforest magnify the greenhouse effect?
2. What is the main function of the rainforests in protecting soil from the potentially devastating effects of tropical storms?
3. What is the role of forests in evapotranspiration?
4. How does medicine depend on rainforests?
5. How many people continue living in forest?

2. Find in the table following words:

floor; rainforest; surface; carbon; root; recycle; absorb; loss; vegetation; fuel; crucial; vapor; medicine; fragile.

R	A	I	N	F	O	R	E	S	T
E	H	C	V	L	O	S	S	U	F
C	M	R	O	O	T	M	V	R	R
Y	E	U	V	O	A	A	L	F	A
C	D	C	A	R	B	O	N	A	G
L	I	I	P	J	S	R	B	C	I
E	C	A	O	H	O	F	U	E	L
X	I	L	R	L	R	R	L	C	E
S	N	K	T	J	B	W	D	H	J
V	E	G	E	T	A	T	I	O	N

3. Finish the sentences according to the text.

1. ...to absorb this environmentally toxic gas is becoming ever more crucial.
2. ...from the potentially devastating effects of tropical storms.
3. If they did not do this, many rivers would... .
4. ...enters the trees from the soil by transpiration and then evaporates from the surface of the leaves.
5. The roots of the trees, which make up about 60 percent of their mass... .
6. When the trees are cut down, vital nutrients... .
7. ...are lying undiscovered within the rainforests.
8. We have both a moral and a scientific duty to protect... .

4. Retell the text.

ЛИТЕРАТУРА

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