

RESCUE AND QUARANTINE IN CONTEXT OF NATURE PROTECTION IN CROATIA

Legislative and institutional framework for the protection of native animal breeds in Croatia

The protection of Croatian native breeds and varieties is an integral part of the protection of the overall biological diversity of Croatia. Croatia's obligations have been defined by international documents (*The Convention on Biological Diversity – the Rio Earth Summit, 1992 / The Republic of Croatia became a party to the Convention on 5th January 1997*) and other legislative decisions passed by the Croatian Parliament.

In 1999 the Croatian Parliament adopted the *National Strategy and Action Plan for the Protection of Biological and Landscape Diversity – NSAP* (in compliance with the obligations under Article 6 of the Convention on Biological Diversity – *Earth Summit 1992*), as the first document containing nature protection policy guidelines in Croatia. The NSAP places special emphasis on richness and value of Croatia's biological diversity and its significance at the national and international level.

The NSAP general strategic objectives include inventorying and mapping of biological diversity; threat assessment; development and implementation of protection action plans; monitoring of the state of nature and development of nature protection implementation mechanisms (including legislative and institutional frameworks, education, development of scientific resources, information, cooperation between institutions, nongovernmental organisations and other).

The NSAP maps out the development of a series of action plans, including the development of the *Action plans for the protection of diversity of domesticated taxa* and *Action plans for the protection of grassland and arable land* which should be singled out as the most relevant in this case.

The protection of ecosystems and habitats is closely linked to the protection of genetic diversity of domesticated taxa. The protection of genetic diversity of domesticated taxa is within the competence of various institutions which, so far, are not interconnected and do not operate in a coordinated manner.

Apart from the *Nature Protection Act* and related subordinate legislation these issues are also governed by *Livestock Act; Veterinary Act; Animal Welfare Act; Act on State Subsidies for Agriculture, Fisheries and Forestry; Seed Production Act; Act on Agriculture; Act on Organic Production of Agricultural and Food Products; Act on Agricultural Land; Regulation on conservation and use of the plant genetic resources and the method of work and organisation of the plant gene banks of agricultural plants; Act on Seeds, Planting Material and Registration of Varieties of Agricultural Plants; Regulation concerning registration and marking of breeding valid animals; Regulation concerning the procedure of recognition of new breeds, varieties and hybrids; Register of domestic animal breeds, varieties and hybrids; Register of native and protected breeds and varieties and their required number; Forestry Act; Act on Genetically Modified Organisms, etc.*

Since the reorganisation of ministries in late 2003, the area of nature protection has been within the competence of the *Ministry of Culture*. The Ministry's Department for Nature Protection is responsible for the implementation of administrative and legal measures in nature protection.

The Ministry of Agriculture, Forestry and Water Management addresses the issue through several responsible units: Department for Veterinary Science; Department of Agriculture; Department for Agricultural Policy, EU and International Relations; Department for Sustainable Rural Development and Department for Market and Structural Support in Agriculture.

The Ministry of Environmental Protection, Physical Planning and Construction governs the same issues through the Directorate for Environmental Management and the Directorate for Strategic and Integration Processes in Environmental Protection. In 2002 the Ministry also developed the National Environmental Protection Strategy (Official Gazette No.46/2002). .

In October 2002 the *State Institute for Nature Protection* was set up by the Government Decree, as the main institution responsible for specialized nature protection related activities in Croatia. The Institute represents the central expert body which collects and processes data on nature and all the factors affecting nature, in a systematic and coordinated manner. This data serves as a basis for creating and planning nature protection policy.

The Government has also founded the *Croatian Environment Agency* and the *Fund for Environmental Protection and Energy Efficiency* which, within the scope of their activities, provide support to programmes dealing with protection of native breeds and varieties, and protection of rural and traditionally anthropogenized areas.

Scientific and expert institutions are also involved in nature protection by conducting research and gathering data for scientific analysis. These, for example, include Faculty of Science, Faculty of Agriculture, School of Veterinary Medicine, Faculty of Forestry, Croatian Livestock Centre, Croatian Centre for Livestock Reproduction, and others. .

In addition, in Croatia there are about 200 nongovernmental organisations that are active in the field of nature and environmental protection, a third of which is registered in Zagreb. A whole range of these organisations are specialised in breeding specific native breeds. Also, there are many individuals who collect and breed native forms of domestic animals as well as old taxa of fruit-trees, vegetables and grains.

In November 2007, parliamentary elections to the Croatian Parliament were held and the process of forming a new coalition Government is still under way. This process will entail the formation of new ministries and consequently a new distribution of competences.

Native breeds of domestic animals in Croatia

The list of native breeds of domestic animals in Croatia includes:

Species	Breed
Cattle	Slavonian Sarmatian podolian cattle
	Istrian cattle
	"Busha" cattle
Horse	Croatian Posavac
	Croatian cold blood horse
	Međimurje horse
	Lipizzaner
Donkey (variety)	Istrian donkey
	Littoral Dinaric donkey
	North Adriatic donkey
Sheep	Tzigai sheep
	Cres island sheep
	Dalmatian "pramenka"
	Ruda (Dubrovnik) sheep
	Istrian sheep
	Krk island sheep
	Lika "pramenka" sheep
	Pag island sheep
	Rab island sheep
Goat	Croatian spotted goat
	Croatian white goat
Pig	Black Slavonian pig
	Turopolje pig
Poultry	Zagorje turkey
	Croatian hen

Compared with conventional breeds, varieties and hybrids, the native breeds of domestic animals can not be economically profitable and competitive due to their production characteristics. Keeping native breeds is, therefore, subsidized through government incentive programmes. In this way, the state has been directly stimulating livestock breeders, for a number of years now, to keep native breeds. However, when it comes to a safe and long-term conservation of gene reserves, this type of assistance to conservation efforts proves to be both insufficient and inefficient. In addition, with Croatia's accession to the EU the mode of providing financial support for keeping native breeds will change significantly.

Ark farms and Rescue Centres

The conservation of native animal breeds is closely linked to and inseparable from both the conservation of habitats, in which they developed and which they modified, and their traditional use. Thus, in Croatia, there are a number of successful ongoing projects designed to integrate the conservation of animal breeds and conservation of habitats as part of integral conservation of biodiversity. This refers to in situ conservation and in situ conditions.

(*In-situ conditions* refer to conditions where genetic resources exist within ecosystems and natural habitats, and, in the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties. *In situ conservation* refers to the conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings and, in the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties.)

The following examples surely represent a model of good conservation, which needs to be adapted and further developed to make it applicable to other native breeds, and their respective habitats and landscapes.

The Nature Park Lonjsko polje – have purchased a herd of podolian cattle from the Centre for Reproduction aiming to help preserve this threatened native animal breed. They have also recognized the cattle breed's important role in preventing the spread of *Amorpha fruticosa*. Within their educational programme titled "Autochthonous breeds in the Lonjsko polje Nature Park", they promote the Posavac horse in a specially designed educational leaflet, as well as the Turopolje pig and the Posavina pointer. In agreement with breeders, there are many herds of the Posavac horse grazing in the park. There is also a parent flock of the Turopolje pig which dwells in the park area. In agreement with interested breeders, it is possible to stipulate a contract to borrow pigs to start a new breeding line and offspring. The agro-environmental study of the area has also been prepared.

BED (Brod Ecological Society), in cooperation with the Public Institution administering protected and natural resources of the County Brodsko-posavska, developed a project concerning the protection and improvement of protected landscape of Gajina (the protected landscape in the eastern part of the County Brodsko-posavska in the Sava river flood area). The project includes the purchase of native breeds of Slavonian podolian cattle, Posavac horse and black Slavonian pig, which is currently under way. These animals will be used to start the breeding process, maintain traditional way of grazing and exert positive influence on the landscape in terms of maintaining biological biodiversity and eliminating invasive species. It has also been planned to include local population in order to support economic development and provide conditions for rural tourism.

The Nature Park Kopa_ki rit, in cooperation with ARK Nature, started a project which includes the purchase of Slavonian Sarmian podolian cattle and Posavac horses, aiming to preserve the Danube area landscape by grazing. In order to form parent herds, it is planned to purchase 24 individuals per breed. The project also includes a set of activities related to sustainable development.

These examples represent just a small segment of needs and activities which should be carried out in the entire territory of Croatia in order to create basic and solid conditions for the conservation of native breeds of domestic animals. The issues that still remain unsolved include mountain pastures in highland Croatia, island pastures, and other landscapes and ecosystems rich in biodiversity our country is famous for.

In order to achieve protection in conformity with sustainable development, thus providing conditions for a long term protection, it is necessary to develop cooperation with nongovernmental organisations and individuals from the above mentioned regions. These places could also serve as rescue centres and quarantine, as special, decentralized breeding under the state care, primarily intended for endangered and critically endangered animal breeds. The centres should be provided with:

- qualified staff
- a well-designed and adapted breeding-selection work
- appropriate zoo-technical conditions for keeping animals, including a separate part for quarantine in case of need
- supervision and cooperation of expert services and/or institutions
- an elaborated utilisation programme in which local community can take part.

Due to the lack of motivation to remain to live in villages, many rural areas have been deserted or are mostly inhabited by elderly population that still prefer keeping native breeds. Also, there are a number of smaller breeders' organisations dealing with native breeds which lose interest in further breeding due to aggravated economic and social conditions. Given an uncertain future regarding the viability of such households/breeding, these centres could also serve as collective stations for rescuing native breeds. Naturally, firm criteria should be established in order to determine valid breeding individuals worth rescuing and/or in need of quarantine.