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ARID ECOSYSTEMS

Журнал освещает фундаментальные исследования и результаты прикладных работ по проблемам аридных экосистем и борьбы с антропогенным опустыниванием в региональном и глобальном масштабах. Издается с 1995 года по решению Бюро Отделения общей биологии Российской академии наук.

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ABSTRACTS

IOGEOCENOTIC PRINCIPLES AND METHODS OF DESERTED PASTURES ECOSYSTEMS ECOLOGICAL RESTORATION IN CENTRAL ASIA

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The degraded deserted pastures of Central Asia require ecological restoration of the lost biodiversity and efficiency. In article results of many years researches on working out biogeocenotic principles and adaptive methods of ecological restoration deserted pastures by mix seeding zonally typical dominant species of fodder semishrubs and turf perennial grasses providing accelerated restoration of their efficiency and botanical variety are shined. Are shown high biopower and economic efficiency of ecological restoration offered methods.
Keywords: biogeocenosis, ecological land restoration, dominants plants, types of plants strategy, deserted pasture ecosystems.

CHANGES OF STATE OF THE MONGOLIAN GAZELLE (*PROCAPRA GUTTUROSA* PALLAS 1777) POPULATION IN THE EASTERN MONGOLIA: ON THE BASE OF ANALYSIS OF LONG-TERM DATA

© 2012 T.Yu. Karimova*, A.A. Lushchekina*, N. Narantuya, V.M. Neronov*, I.N. Safronova***, T. Uchrakhbayar***

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Study of peculiarities of ecology of the Mongolian gazelle (*Procapra gutturosa* Pallas, 1777) – the most typical inhabitant of steppe ecosystems in the Eastern Mongolia, in current conditions and comparison with previously collected data is needed for improving the Biodiversity Conservation Action Plan for ecoregion "Daurian Steppes", enlisted by the World Wide Fund for Nature (WWF) among the 200 most important in the World. The comparative analysis of long-term data collected by authors in the Eastern Mongolia shows that over the past 20-25 years some major changes in the distribution of dzerens and possibly a significant reduction in its numbers have been occurred. Intensive development of mineral resources, construction of new roads crossing migration ways and quite often epizootics create additional threats to wellbeing of this population. It is necessary to implement a special international program for protecting the Mongolian gazelle to avoid its transfer into a category of the IUCN Red List as "critically endangered species".
Keywords: Mongolian gazelle, migrations, Eastern Mongolia, steppe communities, fodder plants, epizootics.

REVEALING AND MAPPING ECOLOGICAL CONFLICTS WITHIN THE TSIMLYANSKOYE WATER RESERVOIR

© 2012. N.M. Novikova*, I.Y. Kalioujnaia, N.S. Kalioujnaia***, E.N. Sokhina***, I.A. Zubov******

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The paper considers feasible approaches to revealing and mapping the environmental conflicts on example of the Tsimlyanskoye water reservoir in connection with its creation and functioning, unsustainable use of nature resources alike. The created map shows the distribution of major environmental conflicts (normative and cross-purposed types) within the upper part of the reservoir.
Keywords: aquatic area, coastal zone, water use, mapping, land use, Tsimlyanskoye water reservoir, environmental conflict.

TUGAY FORESTS OF CENTRAL ASIA AND THE POSSIBILITY OF RESTORATION IN THE MODERN PERIOD

© 2012. Zh.V. Kuzmina*, S.Ye. Трешкин**

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It is shown that in the modern period of active hydraulic engineering and river flow regulation, which is also accompanied by significant changes in climate, the natural existence of relict riparian tugay forests impossible. It is necessary artificial support through periodic flooding targeted the last remaining relict tugay ecosystems, and conservation of the various stages of degraded tugay's as well. In connection with the actively developing degradation process in tugay's forests related with widespread halophytyzation former tugay soils, and also due to lack of water resources at present and the prospect of reducing them in the future, recovery of lost ecosystems must begin with halophytic options tugay's, using the method of minimal flooding discharge of saline waters.
Keywords: riparian forests, landscapes hydromorphic, alluvial soil, regulation of river flow, soil salinity, degradation of vegetation, the preservation of ecosystems.

PECULIARITIES OF COLONIAL NESTING OF RED-FOOTED FALCON *FALCO VESPERTINUS* L. IN VICINITY OF MANYCH-GUDILO LAKE

© 2012. N.V. Lebedeva*, **, A.I. Ermolaev*

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Peculiarities of colonial nesting of Red-footed Falcon *Falco vespertinus* L. in Manych-Gudilo lake valley: dynamic of relative population, production, population characteristics (egg size, egg variability, breeding success et al.) in dependent of colonial structure, weather-climatic fluctuations, the boundary effect and anthropogenic factors are discussed.
Keywords: Red-footed Falcon *Falco vespertinus* L., colonial nesting, Manych-Gudilo lake, nesting population, egg size, egg characteristics, breeding success, weather-climatic factors, biotic factors.

CONTEMPORARY STATE OF VEGETATION OF THE BAIKONUR COSMODROME AND ESTIMATION OF ITS POTENTIAL STABILITY TO THE IMPACT OF SPACE ROCKET LAUNCHES

© 2012. V.V. Neronov*, O.V. Chernitsova, T.V. Koroleva**, P.P. Krechetov****

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For the first time the actual vegetation of the cosmodrome Baikonur (Republic of Kazakhstan) has been mapped. Potential tolerance of edificators and plant associations to the impact of space rocket launches has been estimated. It was determined that weakly and moderately stable phytocenosis occupy 43% of the cosmodrome's territory, comparatively stable phytocenosis − 18.5%, stable phytocenosis − 38%.
Keywords: space-rocket activities, vegetation, semi-arid ecosystems, stability.

THE ASSESSMENT OF THE DYNAMICS OF THE SOIL COVER OF THE KIZLJAR COAST BY A TIME SERIES OF MAPS AND SATELLITE IMAGES

© 2012. N.V. Stasyuk*, V.I. Kravtzova**

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For the first time we estimated the dynamics of the soil cover of the Kizljar coast of the Terek-Kuma depression related to the variations in the level of the Caspian Sea using satellite images and a time series of soil maps/ The coastal was devited into the zone of direct and indirect sea effect. We made a more precise evaluation of the limits of the relict and actual parts of the Kizljar Gulf of ancient marine depression We showed the peculiarity of the dynamics of the composition and spatial organization of the soil cover and its degradation.
Keywords: time series maps, satellite images, ancient marine depressions, zoning sea regression, soil cover pattern, spatial organization.

THE PROBLEMS OF ARID SOIL FORMATION IN THE WORKS OF MARIA ALFREDOVNY GLAZOVSKAYA (The 100th anniversary)

© 2012. Ye.I. Pankova*, I.A. Gorbunova**

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The main problems of arid soil formation in the works of M. Glazovskaya are discussed: biogeochemical role of living organisms, soil formation in high-mountain cryo-arid deserts, polygenetic origin of arid soils, the importance and significance of assigned tasks for the development of pedology and for understanding of modern and relict soil forming processes are shown.
Keywords: arid soils, cryo-arid deserts, leaching, alkalinization, sodification, salinization.