



## Journal of Rangeland Science

Volume 5, Number 2, Spring 2015



# THE QUARTERLY PEER REVIEW PUBLICATION Journal of Rangeland Science (JRS)

## **Director-in-Charge**

Assistant Professor Ali Ariapour, Department of Natural Resources, Boroujerd Branch, Islamic Azad University, Lorestan, Iran Tel.: +98-66-42518038 Fax: +98-66-42518038 Emails: aariapour@iaub.ac.ir aariapour@gmail.com aariapour@yahoo.com

#### **Editor-in-Chief**

Professor Ali Ashraf Jafari, Research Institute of Forests and Rangelands, Iran Tel.: +982144580276-85 Fax: +982144580277 Email: aliashrafj@gmail.com

## **Managing Editor**

Karami, Elahe; M. Sc. Range Management Engineering Boroujerd Branch, Islamic Azad University, Lorestan, Iran

## **Editorial Board**

(Members are listed alphabetically) Alaba Olufunmilayo; Professor Abeokuta University, Nigeria Ariapour, Ali; Assistant Professor

Boroujerd Branch, Islamic Azad University, Iran Arzani, Hossein; Professor

University of Tehran, Iran Farahpour, Mahdi; Associate Professor Research Institute of Forests and Rangelands, Iran

Fraser, Lauchlan Hugh; Professor Thompson Rivers University, British Columbia, Canada

Jafari, Ali Aashraf; Professor Research Institute of Forests and Rangelands, Iran

Jafari, Mohammad; Professor

Mehrabi, Hamid Reza; Assistant Professor Boroujerd Branch, Islamic Azad University, Iran

Mesdaghi, Mansoor; Professor Ferdowsi University of Mashhad, Iran

Mohseni Saravi, Mohsen; Professor University of Tehran, Iran

Safaiian, Nosratollah; Professor

University of Sarii, Iran Shokri, Maryam; Professor

University of Sarii, Iran **Zhanhuan Shang; Associate Professor** Lanzhou University, China

#### Editorial Advisory Board (This Volume)

(Members are listed alphabetically) Abdi, Noorolah; Assistant Professor Arak Branch, Islamic Azad University, Ira Amiri, Fazel; Associate Professor Boshehr Branch, Islamic Azad University, Ira Akhzari, Davoud; Assistant Professor University of Malayer, Ira Ariapour, Ali; Assistant Professor Boroujerd Branch, Islamic Azad University, Iran Arzani, Hossein; Professor niversity of Tehran, Ira Jafari, Ali Aashraf; Professor Research Institute of Forests and Rangelands, Iran Javadi, Akbar; Assistant Professor Science and Research Branch, Islamic Azad University, Tehran, Iran Jouri, Mohammad Hassan; Assistant Professor Nour Branch, Islamic Azad University, Ira

#### Mahdavi, Khadijeh; Assistant Professor Nour Branch, Islamic Azad University, Ira Mehrabi, Hamidreza; Assistant Professor Boroujerd Branch, Islamic Azad University, Ira. Mesdaghi, Mansoor; Professor Ferdowsi University of Mashhad, Iran Moameri, Mehdi; Ardabil University, In Nakhjavan, Shahram; Assistant Professor l Branch, Islamic Azad Úniversity, Iran Sadeghinia, Majid; Assistant Professor n University, Ir Tazeh, Mehdi; Assistant Professor Ardakan Úniversity, Íran Tabatabaee, Shabnam: Assistant Professor Booshehr Branch, Islamic Azad University, Iran

#### **Botanical Editor**

Dehshiri, Mohammad Mehdi; Assistant Professor Boroujerd Branch, Islamic Azad University, Lorestan, Iran Yousefi, Somayeh; Ph. D. Student, Botanicla Isfehan University, Iran

## **Design and Typesetting**

Asgari, Marzieh; M. Sc. Range Management Engineering Boroujerd Branch, Islamic Azad University, Lorestan, Iran

## Formating

Kheradmand, Golnaz; M. Sc. Range Management Engineering Boroujerd Branch, Islamic Azad University, Lorestan, Iran

#### **English Text Editor**

Parsa, Samira; Boroujerd Branch, Islamic Azad University, Lorestan, Iran

## Journal of Rangeland Science (JRS)

P. O. Box: 518, Boroujerd, Lorestan, Iran
Postal code: 6915136111
Tel.: +98-66-42518038
Fax.: +98-66-42518038

rs@iaub.ac.ir, rangelandscience@yahoo.com rangelandscience@gmail.com, info@rangeland.ir

*pISSN: 2008-9996, eISSN: \*\*\*\*-\*\*\** (Published in Iran) Impact Factor (ISC): 0.022 Impact Factor (SIF): 2.96 Web Site : <u>www.rangeland.ir</u> Indexed Int

## Indexed In:

- 1- ISC: <u>http://.isc.gov.ir</u>
- 2- SID: http://www.sid.ir
- 3- SIF: http://scienceimpactfactor.com

We acknowledge with thanks the financial support of Boroujerd Branch, Islamic Azad University, Iran.

Photo by: Saeid Soroosh Fars News Agency Photographer, Khorram Abad, Lorestan, Iran Location of Photo: Doab, Alashtar, Lorestan Province, Iran, 2009

#### **Publisher:**

Regional Inforamation Center for Science and Technology (RICeST) Islamic World Science Citation Center (ISC) www.ricest.ac.ir www.isc.gov.ir

Certified by: Central Organization of Islamic Azad University; No. 87/450866; 88/12/3 Certified by: Ministry of Culture and Islamic Guidance; No. 90/10402; 90/04/27 "Scientific-Research" rank granted by: Islamic Azad University; No. 85-86; 90/11/10

The Ministry of Sciences, Research and Technology of I.R. Iran has approved the Scientific-Research grade of this journal through the approval letter No. 3/18/65490; 92/05/06 Dated



Islamic Republic of Iran Ministry of Science, Research and Technology Deputy of Research and Technology

#### Scientific Validation Certificate

According to scientific journals validation regulatory of Ministry of Science, Research and Technology, the *Journal of Rangeland Science* under the authority of Islamic Azad University, Boroujerd Branch has been approved as a scientific-research credibility by Review Commission of Scientific Journals dated July 8, 2013. Undoubtedly, the efforts done by the journal staff will play considerable roles in developing knowledge boundaries and enhancing scientific status of the country quantitatively and qualitatively.

Not respecting the regulations' content will result in the cancellation of certificate.

#### **Mozafar Sharifi** General Manager of Office of Policy and Planning of Research Affairs And Review Commission of Scientific Journals

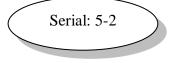
Let's work together to publish the knowledge and science to serve better the Rangelands

## Aims and Scope

Journal of Rangeland Science (JRS) is a national scholarly refereed research journal which aims to promote the theory and practice of rangeland science, innovation, engineering and management. A broad outline of the journals' scope includes: peer reviewed original research articles, case and technical reports, reviews and analyses papers, short communications and notes to the editor, in interdisciplinary information on the practice and status of research in rangeland science, both natural and man made. The main aspects of research areas include, but are not exclusive to: Rangeland Ecology, Eco-physiology of Rangeland Plants, Socio-Economic Factors of Basin, Rangeland Hydrology, GIS and Rangelands, Biodiversity Conservation, Natural Resource Sustainability, Modeling and Decision Support Tools in Natural Resource, Analysis and Assessment of Rangeland, Rangeland Development and Improvement, and Forage Grass Production, Management and Utilization, Soil and Water Conservation.

## Vision and Mission

Journal of Rangeland Science (JRS) publishes original, peer-reviewed and technical rangeland articles since autumn 2010 to serve that rangeland science, engineering and management through the publication of timely and reliable information. JRS is an integral partner with the scientific and technical communities, delivering superior information products and services that foster communication. It builds insights and enables individual and collective advancement in rangeland research. To provide rangeland scientific information and the general public with descriptions of timely, contemporary advances in rangeland issues for use in improving rangeland protection, JRS tries to conserve the natural resources.



Number of Copies: 1000

## CONTENTS

### Volume 5, Number 2, Spring 2015

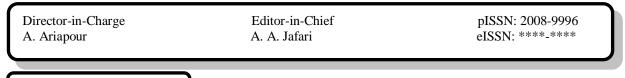
(Papers are listed based on date of acceptance)

Investigation of Carbon Sequestration Potential in Four Species Including Atriplex canescens, Haloxylon persicum, Artemisia sieberi and Agropyron desertorum (Case Study: Zarandieh, Saveh, Iran)......135 Seyedeh Khadijeh Mahdavi, Mohsen Esmaili

Comparison of Plant Litter Composition in Three Range Species and its Effects on Soil Fertility (Case Study: North Eastern Islamabad Rangeland, Kermanshah Province, Iran)......144 Afshin Sadeghirad, Mohamad Nasrollahi, Hossein Azarnivand, Mohamad Ali Zare Chahoki

## THE QUARTERLY PEER REVIEW PUBLICATION Journal of Rangeland Science (JRS)

#### (Published in Iran)



CALL FOR PAPERS

- High quality print out journal on glossy paper
- Online submission and reviewing
- Online status inquiry
- Rapid evaluation and publication
- Immediate publication on the net
- Providing a hard copy
- Article processing is free of charge

## TOPICS

The Journal of Rangeland Science (JRS) is currently accepting manuscripts for publication. JRS publishes high-quality articles, in English, in all areas of Rangeland Science as follows:

Impact Factor: 0.022

- Rangeland Ecology
- Eco-physiology of Rangeland Plants
- Seed Science and Technology
- Socio-Economic Factors of Basin
- Rangeland Hydrology
- GIS and Rangelands
- Remote Sensing
- Ecosystems Modeling
- Mathematical and System Modeling
- Sustainable Development Studies
- Modeling of Alternative Futures
- Global Environmental Change and Ecosystems Management
- Carbon Capture and Storage
- Satellite Applications in the Natural Resource Management
- Resource Management
- Natural Resource Restoration and Ecological Engineering
- Habitat Reconstruction
- Biodiversity Conservation
- Climate Change and Impact
- Use and Conservation of Rangeland Resources

- Forage Quality
- Medicinal Plants
- Landscape Degradation and Restoration
- Ground Water Remediation
- Natural Resource Sustainability
- Natural Resource Systems Approach
- Modeling and Decision Support Tools in Natural Resource
- Monitoring and Analysis of Natural Resource Contaminant
- Storm-Water Management
- Relationship between Animal and Rangeland
- Analysis and Assessment of Rangeland
- Rangeland Development and Improvement
- Ly-farming
- Utilization Systems of Rangeland
- Soil and Water Conservation
- Sociology of Plant
- Law and Regulation of Rangeland
- Quality and Nutrient Valuable of
- **Rangeland Plants**
- Erosion and Sediment in Rangeland