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منظمة
الغذية والزراعة
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NORTH AMERICAN FOREST COMMISSION

TWENTY-EIGHTH SESSION

Campeche, Mexico, 11 - 14 January 2016

REPORT OF THE FOREST GENETIC RESOURCES WORKING GROUP

PERIOD: June 2014 – December 2015

1. WORKING GROUP COMPOSITION

Chairperson	Country	Organization
Javier López-Upton	Mexico	Colegio de Postgraduados en Ciencias Agrícolas
Member Names	Country	Organization
Jesús Carrasco-Gómez	Mexico	CONAFOR
Cuauthémoc Sáenz-Romero	Mexico	Universidad Michoacana de San Nicolás de Hidalgo
J. Jesús Vargas-Hernández	México	Colegio de Postgraduados en Ciencias Agrícolas
Sally N. Aitken	Canada	The University of British Columbia
Tannis Beardmore	Canada	Canadian Forest Service

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Elizabeth Campbell	Canada	Canadian Forest Service
J. Bradley St.Clair	USA	Forest Service-USDA
Kurt H. Johnsen	USA	Forest Service-USDA
Bryce Richardson	USA	Forest Service-USDA

2. (A) LIST OF ACTIVITIES COMPLETED DURING THE PAST 2 YEARS

Activity	Location	Date	Status (completed/ongoing)
XXXV Meeting of the Forest Genetic Resources Working Group (FGRWG).	Guadalajara, México	12-15 May 2014	completed
XXXVI Meeting of the Forest Genetic Resources Working Group (FGRWG).	Durango, México	2-6 November 2015	completed
Symposium: Effects and adaptation of forest genetic resources to climatic change.	Guadalajara, México	13 May 2014	completed
Symposium: Conservation of threatened species. Spruce Mexico and the challenges of climate change. Tribute to Tom Ledig.	Durango, México	4 November 2015	completed
Task 41. Conservation of Mexican Picea species. The task was closed with the publication of a scientific paper where we have integrated a complete management strategy for the conservation of the three rare species of the genus Picea in Mexico.	Mexico	4 November 2015	completed
Task 53. Dispersion and conservation of Pinus coulteri. Seed were collected from two natural stands in the rare populations located in NW Mexico. This was the latest idea of Tom Ledig. Seed lots were collected and stored by Celestino Flores at UAAAN, where some students have work in progress.	Mexico	2015	ongoing
Task 55. Altitudinal geographic variation in Pinus patula. The task was concluded with publication of a scientific paper titled "Altitudinal genetic variation among native Pinus patula provenances performance in two locations, seed zone delineation and adaptation to climate change. Silvae Genetica 63 (4): 139-146". Seed zones were developed for this	Mexico	4 November 2015	completed

species in Oaxaca, and assisted migration for future climate is proposed.			
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2. (B) PLANNED ACTIVITIES FOR NEXT 2 YEARS

Activity	Location	Date	Status (ongoing/new)
Training activities for two technicians for CONAFOR for seed bank management.	Canada or USA	2016	new
XXXVII Meeting of the Forest Genetic Resources Working Group (FGRWG).	British Columbia, Canada	October or August 2016	new
Task 44. Thesis bibliography on FGR in México. We have integrated more than 240 summaries of Mexican thesis of degree (Bachelor, Master and Doctoral); this is very close to complete.	Mexico	2016 (expected)	ongoing
Task 54. Guidelines for assisted migration. Manuscripts have been prepared for Mexico and Canada. There remains a need to target a paper to foresters in the United States that will both educate and provide guidelines on assisted migration. The goal is to produce a draft in the next year.	Mexico and Canada	2016	ongoing
Task 56. Guidelines for ex situ conservation in a changing climate. WG is preparing a paper including case studies of species and populations at risk, recognizing decline in viability of seed in rear edge populations, and acknowledging the need to prioritize collections given limited resources. A draft will be produced in the next year.		2016	ongoing
Task 57: Contribution towards meeting the goals of FAO's 'Global Plan of Action' initiative by compiling country reports for State of the Forest Genetic Resources. Every 10 year, WG may be involved in report compilation; next reporting cycle will be completed by 2022.			ongoing
Task 58: Develop provisional climate-based seed zones for Mexico for present and future climates. Climate modelling approaches using climatic splines and biomes developed by the USDA Forest Service and Mexicans researchers will be used to propose climate-based seed zones as an alternative to the currently used ecological-geographic zones. Climate change scenarios will be established for the future zones. Funds in the	Mexico	2016	ongoing

amount of US\$4 000 were requested and used for GIS assistance to help doing the maps. We are requesting additional funds to complete the task for future climate and to verify maps with CONAFOR.			
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3. WORKING GROUP FINANCIAL INVESTMENTS AND/OR NETWORKING

Period 2014 – 2015

Activity	Amount US\$ (cash)	Amount US\$ (in-kind)
Development of protocols for defining seed zones based on a provisional zoning for Mexico, considering current and future climates.	4 000	
Assisted migration of <i>Abies religiosa</i> populations to accommodate climatic change.	4 000	

4. REQUEST FOR FUNDING AND/OR OTHER SUPPORT

Developing Assisted Migration Guidelines for North America forest tree species.

Activities: Assisted migration of forest tree species seems to be an unavoidable activity in future forest management, in order to decrease the potential negative effects of climate change. Ideally, altitudinal shift upwards or translocation northwards need to be decided based on (a) seed zoning, (b) knowledge of genetic differentiation among populations within species and (c) projections of future climates and suitable climatic habitats. However, such knowledge is partial for many species and in many cases non-existing, particularly for so many forest tree species of the mega biodiverse Mexico. This project aims to synthesize in a draft of a handbook the knowledge available on those three topics, add the practical experience of the FGRWG members and try to develop general guidelines to conduct assisted migration of forest tree species of the three countries, as a starting point of reference. The guidelines will focus primarily on México (where there are less guidelines developed yet), although also include examples for Canadian and American forest tree species.

Amount of funding requested: US\$4 000

Relation to the group's activities: This proposal is a follow up to an ongoing activity to develop current and future climatic seed zoning for Mexico, and is linked to Task 54 "Guidelines for assisted migration".

Other funding sources: CONAFOR has funded previously the climatic seed zoning project for Mexico.

Benefits anticipated: General assisted migration guidelines would be an important reference to start conducting such management measures, and will allow for having field experiences needed to gain understanding of the risks and benefits when conducting assisted migration.

Date by which funding is required: Work would commence upon receipt of funding, but likely not before spring of 2016.

Impact of not carrying out the specified activities: Not having the general guidelines would postpone the start of field work of assisted migration, particularly in Mexico, where there is not a single large scale commercial operation of that sort.

5. CLOSING REMARKS

None