



Chile-California Collaboration

WILDFIRE PREVENTION in the Wildland-Urban Interface in the face of CLIMATE CHANGE

November 7-13, 2016
Santiago, Valdivia, and Temuco, Chile



Project Report



www.conaf.cl



chile-california.org



www.fire.ca.gov

Executive Summary

Beginning in 2014, Chile and the State of California developed a program of technical cooperation in wildfire prevention via the support of the Chile-California Council (CCC). Through this collaboration, it was agreed to organize an international seminar to share experiences among professionals from CONAF (Chile's National Forestry Corporation) and the State of California.

A seminar and related activities were held in Chile the week of November 8, 2016, with a delegation of 10 technical experts from the US, principally from the state of California. The focus of the week-long activities was how to collaborate to improve wildfire prevention in the wildland-urban interface in the face of climate change. Given the catastrophic fire season that followed the trip to Chile, this issue is important and timely.

During a successful week of workshops, meetings, and field tours, a Memorandum of Understanding (MOU) was signed between CONAF and CAL FIRE (the California Department of Forestry and Fire Protection) to facilitate ongoing cooperation between the institutions. Specifically, the MOU identifies the following areas of collaboration:

1. Share best practices, communication strategies, research and technologies, and training opportunities in California and Chile that enhance and promote wildfire prevention and wildland-urban interface awareness to at-risk populations, according to available economic and technical resources.
2. Share advances in training material and opportunities, technical expertise, geographic information systems and technology, communication strategies, scenarios and simulations in all phases of wildfire protection and management, including projects in the area of community risk and hazard assessment, and exchange programs, including the preparation of community-level wildfire prevention plans.



3. Share best practices, expertise, and technical assistance to improve the capacity in all areas of wildfire suppression, including Incident Command System, to enhance response and recovery efforts in coordination with the relevant authorities of each territory and in accordance with applicable domestic laws.
4. Share and explore innovations in fuel-management methods, including prescribed burning, pre-fire management, data collection and analysis, tools and equipment, best practices, technology, and policy developments to mitigate and lessen the effects of increased wildfires due to climate change, developing activities with the objective to build communities resilient to climate impacts and improving the coordination of resources.



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Introduction

Beginning in 2014, Chile and the United States – the latter through the State of California – developed a program of technical cooperation in wildfire prevention via the support of the Chile-California Council (CCC). In October 2015, a delegation from CONAF (Chile's National Forestry Corporation) visited California. Following this exchange, it was agreed to organize an international seminar to share experiences among professionals from CONAF and the State of California. This seminar and related activities were held in Chile the week of November 8, 2016, with a delegation of 10 technical experts from the US, principally from the state of California. This report outlines the results of that interchange of experiences and ideas between Chile, California, and other US experts.

Purpose

Facilitate the exchange of knowledge and experience between professionals from Chile and the United States (especially California) regarding wildfire prevention, specifically in the area of the wildland-urban interface and the impact of climate change.



Objectives

- 1 – Identify strategies to address the increasing risk of catastrophic fire in the growing wildland-urban interface in Chile, beginning with experiences and lessons learned from California.
- 2 – Report on the relationship between climate change and the increased incidence of wildfire.
- 3 – Sign a Memorandum of Understanding (MOU) between CONAF and CAL FIRE (the California Department of Forestry and Fire Protection) regarding future cooperation between the two agencies.
- 4 – Identify next steps in ongoing Chile-California collaboration regarding wildfire.



International Delegation¹

Technical Experts

Daniel Berlant, Chief of Planning & Risk Analysis, Fire Engineering, and Investigations, California Dept. of Forestry and Fire Protection (CAL FIRE)

Tina Curry, Deputy Director of Planning, Preparedness, and Prevention, California Governor's Office of Emergency Services (Cal OES)

Lucian Deaton, Project Manager, International Partnership Development, National Fire Protection Association, Wildfire Division/Firewise

Mark Ghirlarducci, Director, Cal OES

Cybelle Immitt, Senior Planner, Natural Resources Planning, County of Humboldt, Department of Public Works & Humboldt County Fire Safe Council

Helen Lopez, Assistant Director, Finance and International Relations, Cal OES

J. Lopez, Assistant Chief, Forestry Division, County of Los Angeles Fire Department & California Fire Safe Council

Paul Mason, Vice President, Policy and Incentives, Pacific Forest Trust

Ken Pimlott, Director, CAL FIRE

Michele Steinberg, Wildfire Division Manager, National Fire Protection Association, Wildfire Division/Firewise

US-Based Support Staff

Juan Ibañez, Executive Director, Chile-California Council

Tracy Katelman, International Conference Coordinator, CONAF & ForEverGreen Forestry

Ricardo Rodríguez, Operations Director, Chile-California Council

Film Crew²

Thomas Backer, Director of Photography, Original Productions

James Brantley, Video Supervisor, Original Productions

Nicholas Kelly, Audio Supervisor, Original Productions

Christopher Smith, Technical Supervisor, Original Productions

¹See Addendum I for the biographies of the international delegation.

²The trip was filmed for an upcoming series on wildfire and climate change for a US multinational entertainment company.

Itinerary Summary³

The week-long visit of the international delegation was organized around four key activities:

- a) International Seminar,
- b) CONAF Fire Prevention Workshop,
- c) MOU Signing and Identification of Next Steps, and a
- d) Two-Day Field Tour

- a) The **International Seminar: Wildfire Prevention in the Wildland-Urban Interface in the Face of Climate Change** was held on Tuesday, November 8, 2016, in the auditorium of the United Nations Food and Agriculture Organization (UN FAO) complex in Santiago, Chile.



It was a one-day seminar featuring presentations by the international delegation, along with the Directors of CONAF and ONEMI, with approximately 100 attendees. The objective was to educate and share experiences between professionals from Chile and the United States in wildfire prevention in the face of climate change, with emphasis on the wildland-urban interface (WUI).

- b) On the following day, Wednesday, November 9, 2016, an internal **CONAF Fire Prevention Workshop: Analysis of Proposals for the Prevention of Wildland-Urban**



Interface Fires in Chile was also held at the UN FAO complex in Santiago. This event was a round-table discussion between CONAF and the international experts to share their experiences regarding different approaches for addressing wildfire prevention in the WUI. The goal of this discussion was to guide and strengthen CONAF's future strategies and actions regarding fire prevention, especially in the WUI⁴.

³See Addendum II for a table summary of the itinerary and more information.

⁴See page 10 for the outcomes from the workshop discussion.

c) On Thursday, November 10, 2016, the delegation met with CONAF executive staff and representatives from the US Embassy and the Chilean Ministry of Foreign Relations at the CONAF Central Office in La Moneda, Santiago. The meeting resulted in the **Identification of Next Steps**,⁵ a set of agreements regarding how to continue the collaboration between CONAF and CAL FIRE that began



in Chile in November. Following the meeting, the Directors of CONAF and CAL FIRE signed a historic **Memorandum of Understanding**, an intergovernmental agreement between the State of California and the Republic of Chile regarding cooperation in wildfire prevention and protection. The actions identified in the meeting and in this report are the first steps in implementing the historic MOU.

d) The international delegation flew south to Temuco on Thursday evening, November 10, 2016, for a two-day **Field Tour to Visit Prepared Communities**. The tour began on Friday, November 11, 2016,



with a visit to Isla Huapi, near Futrono in the Rivers Region. The objective of the field tour was to present the activities and experiences that have been implemented in the first interface communities in Chile. Isla Huapi is an indigenous community living on an isolated island with no local fire protection and very limited potable water resources. The tour continued on Saturday, November 12, 2016, with a visit to the community of Juan Antipi, near Galvarino in the Araucania Region. There, the group visited a small indigenous Mapuche community that was one of the five pilot communities for the Communities Prepared for Wildfire project, where the project methodology was tested in 2015-2016. The tours to both communities solidified the perceptions of the delegation regarding the similar situations that face Chile and California in terms of wildfire prevention given climate change and increasing fire risk.

The detailed results of the CONAF Strategic Planning Workshop and the CONAF-CAL FIRE Identified Next Steps are found on the following pages.

⁵See page 5 for the identified next steps, and Addendum III for the MOU.



CAL FIRE & CONAF Agreements Regarding Identified Next Steps

NOVEMBER 10, 2016 • SANTIAGO, CHILE

Identification of WUI

- Work together to understand each other's methodology regarding identification of WUI.
- Train CONAF in CAL FIRE methodology for fire threat and fire hazard severity zoning.

Policy

- Share California public policies, legislation, and administrative tools to reduce wildfire risk in the WUI, especially in terms of defensible space regulations, State Responsibility Area (SRA) fees, fire codes, etc.

Relationships with Local Governments

- Explore how to get policies down to the local level through land-use planning, general plans, public safety, etc., and how to build relationships at the local level.
- CAL FIRE will share its experience with CONAF in such planning, especially in collaborative efforts with local governments.

Communication

Share experiences regarding planning and management of public communication campaigns and internal communications during wildfire events (based on ICS).

- Protocol regarding who delivers the message from fires, empowering local spokespeople, and use of Public Information Officers.
- CONAF shadow CAL FIRE and LA County to learn their methodologies for community-level communications, social media, message development, etc.
- Training between both agencies in geo-targeting messages.
- Explore video conferencing on these issues.

Risk Reduction

- CAL FIRE will share its experience with prevention guides, codes, and information management technology for working with various industries to reduce and monitor ignitions in the WUI, e.g. timber, agriculture, electricity, roads, railroads, etc. A special emphasis will be placed on monitoring and measuring wildfire risk reduction on the ground.



Community Wildfire Prevention

- CAL FIRE will assist CONAF in strengthening their Fire Prevention Department capacity regarding applying Firewise and Fire Safe methodologies. This will be facilitated through technical exchanges and experiential learning.

Strategic Planning

The California Fire Plan encapsulates all of the issues discussed this week. It is the perfect document for providing the framework for implementing the MOU. CONAF has several guiding documents; what they don't have is one synthesized guiding document. CONAF also needs guidance in developing a participative process.

- CAL FIRE will integrate CONAF in its process of designing and updating its strategic plan, which contains the vision, mission, strategic objectives and goals of the organization. This work will be carried out beginning in January 2017. Through this process, CONAF can observe how CAL FIRE works with public and private stakeholders in its planning processes.

Fire Cause Investigations

CONAF's participation in CAL FIRE trainings regarding investigations of fire causes was identified as a priority in the 2015 exchange.

- CONAF and CAL FIRE will share experience in the field of wildfire research and training of professional teams in this area.



Wildfire Response and Public Information

- Bring CONAF Wildfire Protection Department leadership team to California next northern summer to experience how CAL FIRE responds to incidents and communicates to the public.

Insights and Lessons Learned

After spending a week together in various situations and environments in Chile, there was general consensus among the delegation regarding the similarities between Chile and California in terms of wildfire risk and threat, and their increase with rapidly changing climatic conditions. Some of the key areas where similarities were found and areas for future collaboration included:

Growth of the Wildland-Urban Interface (WUI)

In Chile, encroachment into wildland areas surrounding urban and rural populated areas is increasing rapidly. In California, this encroachment and management of wildfire risk is largely being addressed through zoning and regulations such as those requiring defensible space around structures and WUI building standards for the structures themselves. These tools are not yet being used in Chile to manage wildfire risk, and would be a good place to focus future collaborative efforts.

As part of the CCC's earlier collaborative work on wildfire prevention, volunteers were identified to translate the California WUI building codes into Spanish and then to write them up into Chilean legal terminology. That project was never completed. Those resources may still be available to assist with implementing a new WUI building code in Chile.

The US-based National Fire Protection Association (NFPA) is seeking research topics related to wildfire and climate. The issues of Chilean land-use planning and zoning, defensible space regulations, and WUI building codes would benefit from targeted research.

Community-Based Fire Prevention

It was agreed that CONAF's Communities Prepared for Wildfire pilot project is off to a good start. That project was based largely on the California Fire Safe Council model (www.cafiresafecouncil.org/fire-safe-councils). It would be beneficial for CONAF to learn from Californians in terms of where it is most effective to develop Fire Safe Councils (FSC) at the county (or regional) versus local level, and what kinds of activities are best suited for each geographical level. It would also be beneficial for CONAF to see how some of the older FSCs have sustained themselves over time, especially those that are more independent and less reliant on government funding or other outside support. This could be facilitated through exchanges with various Fire Safe Councils, and a tour of some of the more successful FSCs around California. These FSC interchanges began with the 2015 CONAF visit



to California and the participation and representation from the Humboldt, Los Angeles, and California Fire Safe Councils on this tour to Chile.

The Firewise model of the NFPA is another methodology that should be explored to use in Chile. Firewise is focused primarily on creating hardened homes (homes with a better chance of withstanding wildfire) and defensible space around homes, and less so on community or neighborhood-level projects. Firewise may function better for smaller communities or neighborhoods in Chile. While the Firewise recognition program (www.firewise.org/usa) is a process with a set of criteria, it does have adequate flexibility to allow adaptation to community circumstances and as such could work well in Chile. Additionally, the concept of pairing up communities in Chile with those in the US as Firewise “sister cities” was proposed as a way to help develop the program in Chile. Sharing at the peer level among communities is very exciting and energizing for them, as often the community activists feel quite alone when they are “out in front.”

Empowering Residents to Take Responsibility

In both California and Chile, there is an ongoing challenge regarding how to engage and inspire residents to take responsibility for making their homes, neighborhoods, and communities prepared to survive wildfire with minimal damage. It would benefit both territories to continue to look to each other for examples regarding how to empower



people to take the needed action to reduce their risk. CONAF, CAL FIRE, and community Fire Safe Councils, such as those represented on the tour by Humboldt and Los Angeles Counties, could share their experiences regarding community empowerment. The NFPA can offer resources on resiliency planning, materials for outreach, and the ability to support translation and tailoring of those materials. NFPA can offer expertise and advice from nearly two decades of working on community behavior change via Firewise.

Communications

CONAF and CAL FIRE agreed they would benefit from learning how each other is addressing the challenge of apathy, and where they can collaborate to be more effective in their messaging to inspire residents to take responsibility. One potential way would be to monitor their effectiveness in messaging, especially in specific, targeted geographical areas. Sharing resources and developing joint methodologies in communication strategies would also benefit both organizations; this may be facilitated through a series of video conferences. Additionally, it was noted that expanding Chile’s fire prevention message to include the topic of fire preparedness would be beneficial, and this is now being implemented through CONAF’s new Communities Prepared for Wildfire program.

In terms of messaging, the Ready, Set, Go program is widely used in California, especially by CAL FIRE. Ready, Set, Go materials were previously translated into Chilean Spanish. Completing the “Chileanization” of the Ready, Set, Go materials may be a relatively simple way to test a new messaging program in Chile.



Internal communications during wildfire events was an area identified as needing assistance at CONAF. CAL FIRE leadership offered CONAF the opportunity to visit during the next northern wildfire season to learn first-hand how public information is generated on-the-ground in California.

Funding for Fire Prevention

As was previously the case in California – before the implementation of the *SRA Fire Prevention Fee*⁶ – there are limited resources for fire prevention activities in Chile. One California policy to consider implementing in Chile would be a variation on the State Responsibility Area Fire Prevention Fee, where all the homes built in the interface area of a given community or district would pay a modest “prevention fee” that could be combined to fund strategic projects around the community. Exemptions could be built into the system for low-income households. Such a measure could generate a meaningful, new dedicated source of funds.

Strategic Planning

It was agreed that CONAF’s responsibility to protect residents from wildfire is becoming increasingly difficult given the combination of encroachment into the WUI and the increase of catastrophic fire due to climate change. CONAF would benefit from updating the definition and scope of its duties. If CONAF is going to be pushed from wildland fire duties to community structural protection, then they need more of a role in defining land use and preventing undue risk.

CONAF could benefit from CAL FIRE’s strategic planning experience, including how to work with various stakeholders in the planning process, such as collaboration with local governments. CONAF can take advantage of the upcoming California Fire Plan update in early 2017 to learn first-hand how CAL FIRE addresses these planning issues. CAL FIRE will explore how to bring CONAF into its planning process.

⁶The *SRA Fire Prevention Fee* is a fee based on all habitable structures in the WUI that receive fire protection and prevention services from CAL FIRE, known as the State Responsibility Area (SRA).

Conclusions from CONAF Prevention Workshop

November 9, 2016

Evaluation and Prioritization of the Wildland-Urban Interface (WUI)

- There is a great deal of available experience regarding identification of the WUI in Chile; it is now necessary to systematize it, bringing together the vast diversity of situations and specifics throughout the country. CONAF would benefit from understanding CAL FIRE's methodology for identification/prioritization of wildfire risk in the WUI.



- It is important to incorporate into the WUI identification methodology a series of underlying social and cultural factors, especially the issue of marginality, which leads to further encroachment into the WUI.
- Identification and prioritization of the WUI should initially be done at the technical level, and then validated through a participatory process with communities and local authorities.

Community-Level Management Instruments

- The role of municipalities in the management of wildfire risk reduction in the WUI should be emphasized and strengthened. This should take into account the availability of administrative instruments regarding land-use planning. CONAF can work collaboratively with local governments through joint programs to facilitate a series of initiatives to reduce the vulnerability to and threat of wildfires.
- It is important to extend this initiative to all public and private agencies with expertise in this area to strengthen the work of wildfire risk reduction in the WUI, (e.g. Association of Municipalities, Sub secretariat for Regional Development [SUBDERE], etc.).
- Identify public policies, legislation and zoning instruments to generate regulations that incorporate the management of wildfire risk reduction in the WUI. Incentives for community collaboration in this area should also be explored.



Analysis of Proposals for the Prevention of Wildland-Urban Interface Fires in Chile⁷

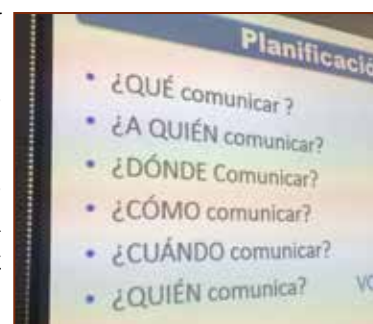
The Role of Local Governments Before, During, and After Wildfires

- The following management tools exist at the local government level and could support the integration of reducing wildfire risk in WUI areas:
 - Community Development Plans (PLADECO)
 - Inter-Communal, Communal, and Sectional Regulatory Plans
 - Municipal Budgets
 - Conventions
 - Investment Projects
 - Municipal Ordinances
 - Municipal Decrees
 - Instructive Documents
- Design and implement a joint management model with local governments for the entire cycle of wildfire risk reduction and management in the WUI (i.e. prevention, mitigation, response preparedness, and response).
- Promote the concept that responsibility for the land in terms of wildfire risk reduction – especially in WUI areas – is intrinsically linked to property rights and responsibilities.



Proposals for the Preparation, Implementation, and Evaluation of Communication Campaigns

- Communications are by themselves not the solution, they are a complement to the technical aspects of the issues; therefore there must be consistency in the message towards the recipient.
- Disinformation must be handled through good crisis management and social network management, with clear, truthful, and timely information, which tells what is happening, what is being done to solve the problem, and what measures will be implemented so that this does not happen again.
- Strengthen the management of technological and communication means, as tools to measure the impact of outreach and education campaigns, with the goal of changing personal and community behaviors regarding wildfire risk in the WUI.
- As a corollary it is important to know: To whom are we communicating? What do we want them to change in their behavior? What is the message?



⁷ See Addendum IV for a list of workshop participants and observers.

Initiatives for Community Work and Participation

- Today in the US, there are two primary methodologies in community fire prevention: Firewise and Fire Safe. (The latter is currently being applied in Chile via the Prepared Communities project.) These are applied equally, depending on the reality and complexity of each community, complementing each other, and with communication between the programs. It is necessary to strengthen the skills and experience of CONAF professionals in the application of both the Firewise and Fire Safe methodologies. This can best be facilitated through the exchange of experts between Chile and California in an experiential learning framework.
- It is important to emphasize that the goal of working with communities is to reduce both the vulnerability of such WUI communities to the threat of wildfire, and the probability of occurrence of wildfires in those areas.
- Care must be taken to manage the expectations of the communities involved in these processes; at some point CONAF must gradually withdraw to work in



other communities facing similar issues. We must look for ways to strengthen the sustainability of the process – not only build the network and put it into action – but also keep alive the reason for this initiative. Therefore, it is necessary to facilitate and cultivate networks across communities over time, with continuous monitoring and communication, fostering collaboration and networking among these communities.

Wildfire Risk Reduction

- Information obtained by working with WUI communities must be systematized to reduce wildfire risks. This should be done both by measuring the impacts of implemented measures, and learning from successes and failures. This is fundamental for improving our understanding and the effectiveness of these experiences, for training and education, and to be able to show communities examples of situations before and after participatory work.
- It is vital to prioritize the enforcement of wildfire risk reduction plans within land management plans in interface areas. This could facilitate development of skills and experiences both among those identifying wildfire risks as well as the professionals in charge of enforcement.
- Inter-institutional work should be strengthened regarding enforcement of the different sources of wildfire risk and/or threats. Additionally, this work should demonstrate to private companies how the lack of wildfire risk reduction would affect their business.

Desired Outcomes and Conclusions

It was agreed by all participants that the November tour was an overwhelming success. Stimulating dialogue occurred with thoughtful and inspiring conclusions. Excellent relationships were created, many of which are expected to last long into the future. A historical Memorandum of Understanding was signed by the Directors of CONAF and CAL FIRE, which will direct future collaborative efforts in wildfire prevention and protection between the two institutions as well as between the Republic of Chile and the State of California.

The next step is to organize a series of meetings among and between the leadership of both institutions to develop a short- and long-term plan for collaboration. That collaborative effort can be facilitated through the Chile-California Council, with the support of CONAF and CAL FIRE.

While this Chile-California planning process is getting underway, there are several actions that could be implemented in 2017 without extensive effort. These are summarized in the table *2017 Initial Action Plan*, on pages 14-17.



2017 Initial Action Plan

Action	Who	How	2 Q 2017	3 Q 2017	4 Q 2017
Strategic Planning					
CAL FIRE will integrate CONAF in its process of designing and updating its strategic plan, which contains the vision, mission, strategic objectives and goals of the organization. This work will be carried out beginning in early 2017. Through this process, CONAF can observe how CAL FIRE works with public and private stakeholders in its planning processes.	CAL FIRE CONAF LA County Fire	CAL FIRE invite CONAF to follow this process, both virtually through emails, video conferencing, etc., as well as in person for key meetings of stakeholders.			
ICS and Wildfire Protection					
Bring CONAF Wildfire Protection Department leadership team to California next northern summer to experience how CAL FIRE responds to incidents and communicates to the public	CONAF Wildfire Protection Leadership Team	CONAF Wildfire Protection leadership staff visit California to shadow CAL FIRE during active fires.			



2017 Initial Action Plan

Action	Who	How	2 Q 2017	3 Q 2017	4 Q 2017
Policy					
Explore regulatory options for zoning for WUI risk reduction and the implementation of WUI building standards.	NFPA CAL FIRE	Explore possibility of research into how to implement CA WUI Building Codes in Chile, as well as potential policies for zoning for wildfire risk reduction. CAL FIRE to share its recent challenges and successes implementing CA's new Land Use Planning Division.			
Community Wildfire Prevention					
CAL FIRE assist CONAF in their understanding of how Fire Safe Councils (FSC) work at different levels, and how Councils sustain themselves over time.	CAL FIRE CONAF DEPRIF ⁸	Invite CONAF professional staff from Communities Prepared for Wildfire project for a tour of various FSCs throughout the state at different organizational levels (county, city, community and/or neighborhood).			
Explore possibility of Firewise sister city program.	NFPA/ Firewise CONAF DEPRIF	Potentially begin with Humboldt County as Sister City.			
Development of Firewise materials and program for Chile.					

⁸ CONAF DEPRIF – CONAF Department of Fire Prevention

2017 Initial Action Plan

Action	Who	How	2 Q 2017	3 Q 2017	4 Q 2017
Communication					
Share experiences regarding planning and management of public communication campaigns and internal communications during wildfire events (based on ICS).	CAL FIRE CONAF SECOM ⁹ LA County Fire NFPA	Explore video conferencing on these issues.			
· Protocol re who delivers the message from fires, empowering local spokespeople, Public Information Officers.					
· Shadowing CAL FIRE and LA County in community communications, social media, message development, etc.		CONAF Wildfire Protection leadership staff visit California to shadow CAL FIRE during fires.			
· Geo-targeting message training.					
· Expand fire prevention message to include preparedness.		Review current Firewise materials against current/ planned CONAF and project messages.			



⁹ CONAF SECOM – CONAF Department of Communications

2017 Initial Action Plan

Action	Who	How	2 Q 2017	3 Q 2017	4 Q 2017
Investigations of Fire Causes					
CONAF and CAL FIRE will share experience in the field of wildfire research and training of professional teams in this area.	CONAF CAL FIRE	CONAF participate in Fire Investigation trainings via CAL FIRE.			
ICS and Wildfire Protection					
Trainings in wildfire protection software and GIS tools.	CONAF CAL FIRE Cal OES	Explore possibility of joining GIS training CAL FIRE and Cal OES will be doing with Mexican delegation.			



Addendum I: International Delegation Participant Biographies

THOMAS BACKER

Director of Photography, Original Productions



DANIEL BERLANT

Daniel Berlant is CAL FIRE's Assistant Deputy Director, Chief of Planning & Risk Analysis, Fire Engineering, and Investigations. This position in CAL FIRE's Office of the State Fire Marshal is responsible for the policy and program leadership for Fire Plan, the State Responsibility Area (SRA) Fire Prevention Fee, Defensible Space, California All Incident Reporting System (CAIRS), Land Use Planning, Fire Engineering (both structural and wildland), Investigations, Arson & Bomb, Fireworks, and Pyrotechnics. These tools help reduce risks in California's Wildland-Urban Interface.



JAMES BRANTLEY

Video Supervisor, Original Productions



TINA CURRY

Deputy Director of Planning, Preparedness, and Prevention, Tina Curry is involved in the State of California Emergency Plan, Standardized Emergency Management System (SEMS) and National Incident Management System (NIMS) compliance, Homeland Security and Radiological/Nuclear preparedness, Training and Exercises, and the Cal OES Earthquake and Tsunami program. She has assisted in a wide range of duties including statewide emergency operations during the Year 2000 Rollover (Y2K), the energy crisis, the 2007 wildfires and statewide drought. Deputy Director Curry has also worked on the federal level with California's response and support to 9/11 and assisting with Hurricane Katrina and Superstorm Sandy emergency response.



LUCIAN DEATON

Lucian Deaton manages international partnership outreach for NFPA's Wildfire Division, with its Firewise Communities and wildfire standards focus in Africa, Latin America, Canada, the UK, Europe, and Australasia. He previously managed the national Firewise Communities/USA® Recognition Program. Prior to NFPA, Mr. Deaton worked with the International Association of Fire Chiefs (IAFC) managing the National Ready, Set, Go! Program. Beginning in 2001, he was a national lobbyist on law enforcement and fire service public safety issues before Congress and the federal agencies. He has a Master's degree in Urban Planning and Natural Resources from Virginia Tech and lives in Denver, CO.



MARK GHILARDUCCI

Mark S. Ghilarducci was appointed in 2013 to serve as the Director of the California Governor's Office of Emergency Services (Cal OES). Mr. Ghilarducci has more than 25 years of service in emergency management. As a member of the Cabinet, Director Ghilarducci serves as the Governor's Homeland Security Advisor (HSA) and oversees statewide public safety, emergency management, emergency communications, counter-terrorism efforts and the State Threat Assessment System (STAS). His duties include serving as chair of numerous boards and committees and he sits on several state and national commissions and work groups.



CYBELLE IMMITT

Cybel Immitt is a Senior Planner for Humboldt County Natural Resources Planning and staff for the Humboldt County Fire Safe Council. Through her supportive role to the Council, she has worked with a variety of stakeholders to develop and implement projects such as the county-wide Community Wildfire Protection Plan, the Firewise program, and the Fire-adapted Landscapes and Safe Homes Program (FLASH), a program that shares the cost of managing wildfire-prone vegetation with local property owners who live in the WUI. Ms. Immitt received a BS in Forestry Management and an MA in Social Science, Environment and Community Program, from Humboldt State University. She was also a "hotshot" firefighter for the Sequoia National Forest after high school. Ms. Immitt was awarded the 2012 "Director's Partnership Award" for "superior performance and outstanding contribution demonstrating the ability to work in cooperative partnership with CAL FIRE."



TRACY KATELMAN

Tracy Katelman is a California Registered Professional Forester with ForEverGreen Forestry in Eureka, California. She is a recognized leader in community-based planning for wildfire due to her innovative, collaborative work in several communities throughout California and Chile. She lived in Chile from 2007 to 2016, where she worked with CONAF to lead the creation of their new national Communities Prepared for Wildfire program. Before moving to Chile, Ms. Katelman was a member of the board of directors of the California Fire Safe Council and a volunteer firefighter with two local volunteer fire departments. Her experience in environmental restoration and sustainable forestry dates back to the 1990s, when she helped found both the Institute for Sustainable Forestry and the Forest Stewardship Council. She has a Master's degree in Wildland Resource Science and a Bachelor's degree in Conservation and Resource Studies, both from the University of California at Berkeley.



NICHOLAS KELLY

Audio Supervisor, Original Productions



HELEN LOPEZ

Helen Lopez serves as the Assistant Director of Financial Accountability and Compliance, and International Affairs at the California Governor's Office of Emergency Services (Cal OES). In this role, Ms. Lopez ensures the department's integrity and compliance with state and federal rules and regulations, as well as the safeguarding and accountability of public funds. She is the department's liaison for international affairs, and serves in an advisory capacity to the Director on international policy, developing bi-national agreements and assisting in the coordination of international aid and resources to countries during international emergencies and disasters. Ms. Lopez provides executive support to the Director in areas such as the Governor's Drought Task Force. She has been an active council member with the Chile-California Council for four years.



J. LOPEZ

Assistant Chief J. Lopez has worked for the County of Los Angeles Fire Department, Forestry Division, for the last 29 years. He currently manages their Natural Resources Section, focusing on cultural, human, and natural resource protection. His projects include a combination of fuels reduction, ignition management, and fire-safe engineering activities; fire prevention and behavior education; support of Fire Safe Councils and Firewise Communities; habitat health preservation, Oak Tree Ordinance, and Oak Woodlands management; Environmental Impact Reports review; and protection of public and private assets. Mr. Lopez has a bachelor's degree in Forestry Engineering and is a qualified Incident Command System Logistics Section Chief (2). He has professional affiliations in many government and professional organizations.



PAUL MASON

Paul Mason is the Vice President for Policy and Incentives for the Pacific Forest Trust, an organization focused on preserving well-managed private forests for multiple public benefits. He brings more than 20 years of experience in forest and wildlife conservation and land-use policy as it relates to fire and the wildland-urban interface. Mr. Mason has led successful efforts to change California law to increase the amount of “defensible space” required around homes from 30’ to 100’, and helped create new programs to thin unnaturally dense forests to reduce wildfire intensity. Mr. Mason received his degree in Natural Resource Policy from Humboldt State University in northern California.



KEN PIMLOTT

CAL FIRE Director Ken Pimlott has over 30 years of experience in fire protection. Starting as a reserve firefighter, Chief Pimlott has held a variety of positions including: Deputy Director of Fire Protection, Pre-fire Management Division Chief, Fire Chief for the City of Moreno Valley, and program manager for CAL FIRE’s Cooperative Fire Protection Programs. Chief Pimlott has well-rounded experience in fire protection at the operational and program levels within CAL FIRE. He holds an Associate of Arts Degree in Fire Technology from American River College, a Bachelor’s Degree in Forest Resource Management from Humboldt State University, and is a California Registered Professional Forester.



CHRISTOPHER SMITH

Technical Supervisor, Original Productions



MICHELE STEINBERG

Michele Steinberg is the Wildfire Division Manager at the National Fire Protection Association (NFPA), a global nonprofit organization established in 1896. She leads a team dedicated to wildfire safety education, advocacy, and outreach. Since 1989, Ms. Steinberg has worked in the areas of natural hazards, land use planning, and disaster safety outreach for such organizations as the Insurance Institute for Business & Home Safety, the Federal Emergency Management Agency, and the Massachusetts Flood Hazard Management Program. She is the author of numerous articles and technical documents on disaster safety and mitigation planning, and currently serves on the Executive Committee for the Hazard Mitigation and Disaster Recovery Planning Division of the American Planning Association. She holds a BA in English and American Literature from Brandeis University and a Master’s of Urban Affairs from Boston University.



Addendum II:

Itinerary Summary

November 8-12, 2016

Date	Event	Location	Summary & Objectives
8 Nov.	International Seminar: <i>Wildfire Prevention in the Wildland-Urban Interface in the Face of Climate Change, Seminar between Chile and the United States</i>	UN FAO, Santiago	One-day international seminar featuring presentations by the international delegation, along with the Directors of CONAF and ONEMI. The seminar objective was to educate and share experiences between professionals from Chile and the United States in wildfire prevention in the face of climate change, with emphasis on the wildland-urban interface (WUI).
9 Nov.	CONAF Internal Strategy Session and Technical Workshop: <i>Analysis of Proposals for the Prevention of Wildland-Urban Interface Fires in Chile</i>	UN FAO, Santiago	Round-table discussion between CONAF and the international experts to share their experiences regarding different approaches for addressing wildfire prevention in the WUI. The goal of this discussion was to guide and strengthen CONAF's future strategies and actions in terms of fire prevention, especially in the WUI.
10 Nov.	Signing of CONAF – CAL FIRE Memorandum of Understanding	CONAF Central Office, Santiago	Signing of an intergovernmental agreement between the State of California and the Republic of Chile regarding cooperation in wildfire prevention and protection.
10 Nov.	Identification of Next Steps	CONAF Central Office, Santiago	A set of agreements was made regarding next steps in the collaboration between CONAF and CAL FIRE as the first step in implementing the historic MOU.



Date	Event	Location	Summary & Objectives
11 Nov.	Field Tour to Visit Prepared Communities	Isla Huapi, Futrono, Rivers Region	The objective of the field tour was to present the activities and experiences that have been implemented in the first interface communities in Chile. Isla Huapi is an indigenous community living on an isolated island with no local fire protection and very limited potable water resources.
12 Nov.	Field Tour to Visit Prepared Communities	Galvarino, Araucania Region	Continuing on the tour, the group visited the Juan Antipi indigenous Mapuche community that was one of the five pilot communities for the project, where the project methodology was tested in 2015-2016.



Addendum III: Memorandum of Understanding CONAF – CAL FIRE



MEMORANDUM OF UNDERSTANDING BETWEEN THE STATE OF CALIFORNIA, DEPARTMENT OF FORESTRY AND FIRE PROTECTION AND THE REPUBLIC OF CHILE, LA CORPORACIÓN NACIONAL FORESTAL ON COOPERATION IN WILDFIRE MANAGEMENT AND PREVENTION

The California Department of Forestry and Fire Protection (CAL FIRE) and la Corporación Nacional Forestal (CONAF) (hereinafter jointly referred to as the Partners);

WHEREAS the Republic of Chile and the State of California have established a long-standing cooperation and signed a Memorandum of Understanding entitled, “Chile-California: A Xth Century Partnership” and a Joint Declaration on Climate Change entitled, “Joint Declaration Chile – California on Climate Change”;

WHEREAS the Partners share common geographic and climatological characteristics, and recognize that climate change presents worldwide challenges and risks to the environment and economies; impacting human health, increasing extreme weather events and wildfires, and threatening natural resources of the affected territories;

WHEREAS a joint partnership and agreement between the Republic of Chile and the State of California will provide a broad framework for cooperation and support between the Partners in reducing vulnerabilities and increasing resilience to climate change and wildfire threats, and builds on a solid foundation that enhances initiatives in wildfire management and prevention, and fire and resource assessment;

WHEREAS CAL FIRE is founded in emergency response and resource protection, and exists to protect lives, property and natural resources of California from fire, respond to emergencies of all types, and protects timberlands, wildlands, urban forests, and the State’s critical watersheds;

WHEREAS CONAF, under the Ministry of Agriculture, serves to conserve forest resources and wildlife, preventing and fighting forest fires, and monitoring forest and environmental legislation and the protection of vegetation resources, as well as the conservation of biological diversity through the National System of Protected Wilderness Areas, for the benefit of society;

WHEREAS cooperation between the Partners and governmental agencies plays a fundamental role in implementing solidarity between the people and in joining efforts of the public and private sector in times of crisis;

WHEREAS both Partners due to their history and experience involving wildfire and other natural disasters influenced by climate change share a common interest in enhancing wildfire management and prevention initiatives and collaborate to protect the welfare of their populations and environment;

WHEREAS in the well-established spirit of friendship and cooperation, the Partners intend to cooperate to effectively reduce the occurrence and risk of wildfires, and respond to, threats created by wildfire to the public health, safety, and welfare of their respective states; and

WHEREAS collaboration and mutual exchanges of wildfire management and prevention best practices, technologies, and research ensures that linkages are established to further increase capacity, enhance protection, and reduce the loss of life.

THEREFORE, THE PARTNERS PLEDGE THEIR INTENTION TO:

1. Share best practices, communication strategies, research and technologies, and training opportunities in California and Chile that enhance and promote wildfire prevention and wildland-urban interface awareness to at-risk populations, according to available economic and technical resources.
2. Share advances in training material and opportunities, technical expertise, geographic information systems and technology, communication strategies, scenarios and simulations in all phases of wildfire protection and management, including projects in the area of community risk and hazard assessment, and exchange programs, including the preparation of community-level wildfire prevention plans.
3. Share best practices, expertise, and technical assistance to improve the capacity in all areas of wildfire suppression, including Incident Command System, to enhance response and recovery efforts in coordination with the relevant authorities of each territory and in accordance with applicable domestic laws.
4. Share and explore innovations in fuel management methods, including prescribed burning, pre-fire management, data collection and analysis, tools and equipment, best practices, technology and policy developments to mitigate and lessen the effects of increased wildfires due to climate change, developing activities with the objective to build communities resilient to climate impacts and improving the coordination of resources.

The Partners acknowledge that this Memorandum of Understanding is only intended to provide for cooperation between the Participants and does not create any legally binding rights or obligations. To the extent that any other provision of this Memorandum of Understanding is inconsistent with this paragraph, this paragraph shall prevail.

The Partners commit themselves in good faith to implement this Memorandum of Understanding to the fullest extent possible, subject to any changes in policy that they may adopt and will be effective on the date appearing below and will remain in effect for five (5) years from that date.

Signed in Santiago, Chile, on the 10th of November, two thousand sixteen, in 3 originals in Spanish and English languages, both texts being equally authentic originals.

**CALIFORNIA DEPARTMENT OF
FORESTRY AND FIRE PROTECTION,
STATE OF CALIFORNIA**



KEN PIMLOTT
DIRECTOR

**CORPORACIÓN NACIONAL FORESTAL
MINISTERIO DE AGRICULTURA
REPÚBLICA DE CHILE**



AARON CAVIERES
DIRECTOR EJECUTIVO

Addendum IV: Prevention Workshop, Participants and Observers

Participants

Name	Title	Organization
Alfredo Mascareño	Director, Fire Protection	CONAF
Peter Moore	FAO Representative	FAO
Jorge Del Pedregal	National Consultant	FAO
Andrea Alvarado	Chief, Preventative Silviculture and Communities	CONAF
Francisco Urrutia	Chief, Executive Secretary	CONAF
Luis Correa	Forestry Enforcement Officer	CONAF
Tracy Katelman	International Consultant	CONAF
Ricardo Rodriguez	Operations Director	Chile-California Council (CCC)
Daniel Berlant	Chief of Planning & Risk Analysis, Fire Engineering, and Investigations	CAL FIRE
J. López	Assistant Chief, Forestry Division	County of Los Angeles Fire Department & CA Fire Safe Council
Paul Mason	VP of Policy and Incentives	Pacific Forest Trust
Cybelle Immitt	Senior Planner, Natural Resources Planning	County of Humboldt, & Humboldt County Fire Safe Council
Mariela Chavarriga	Disaster Risk Management Specialist	US AID OFDA Latin America
Lucian Deaton	Program Manager, International Partnership Development	National Fire Protection Association, Wildfire Division/ Firewise
Michele Steinberg	Wildfire Division Manager	National Fire Protection Association, Wildfire Division/ Firewise
Chris Nyce	Energy & Environment, Science, Technology, Health Officer	US Embassy
Mariela Espejo	Secretary of Communications	CONAF
Luis Martínez Díaz	Regional Chief, Fire Protection	CONAF Coquimbo Region
Raúl Molina Bustos	Regional Chief, Fire Protection	CONAF Valparaíso Region
Héctor Soto	Regional Chief, Fire Protection	CONAF Biobio Region
Claudio González	Regional Chief, Fire Protection	CONAF La Araucanía Region
René Cifuentes Medina	Regional Chief, Fire Protection	CONAF Magallanes Region

Prevention Workshop, Participants and Observers

Observers

Name	Title	Organization
Ricardo Peña	Regional Chief, Fire Protection	CONAF O'Higgins Region
Dante Bravo Rojas	Regional Chief, Fire Protection	CONAF Maule Region
Marcelo del Valle Epuayao	Regional Chief, Fire Protection	CONAF Los Ríos Region
Juvenal Bosnich	Regional Chief, Fire Protection	CONAF Los Lagos Region
Felipe Valencia	Regional Chief, Fire Protection	CONAF Aysén Region
Andrés Bennedetto	Regional Chief, Fire Protection	CONAF Metropolitan (Santiago) Region
Natalia Muñoz	Fire Prevention Staff	CONAF Coquimbo Region
Daniel Ariz Abarta	Regional Chief, Fire Prevention	CONAF Valparaíso Region
Alexis Villa	Regional Chief, Fire Prevention	CONAF O'Higgins Region
Guillermo Morales Morales	Regional Chief, Fire Prevention	CONAF Maule Region
Rodrigo Muñoz	Regional Chief, Fire Prevention	CONAF Biobio Region
José Navarrete	Regional Chief, Fire Prevention	CONAF La Araucanía Region
Paola Antimán	Fire Prevention Staff, Prepared Communities Project	CONAF La Araucanía Region
Luis Neira	Regional Chief, Fire Prevention	CONAF Los Lagos Region
Enrique Corvetto	Regional Chief, Fire Prevention	CONAF Los Ríos Region
Juan Barrientos	Regional Chief, Fire Prevention	CONAF Aysén Region
Javier González	Regional Chief, Fire Prevention	CONAF Magallanes Region
Andrés Benedetto Acuña	Regional Chief, Fire Prevention	CONAF Metropolitan (Santiago) Region
Jorge Flores	Fire Prevention Staff, Prepared Communities Project	CONAF Metropolitan (Santiago) Region
Ximena Ponce	Chief, Department of Fire Prevention	CONAF
Rosanna Tamarin	Chief, Prescribed Fire	CONAF
Fernando Parada	Chief, Department of Fire Fighting	CONAF
Gloria Ochoa	Consultant, Dept. Fire Fighting	Germina



Prepared for CONAF
by Tracy Katelman, ForEverGreen Forestry
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