

# Wildland Fire Investigation Subcommittee (WFISC)

## Conference Call Agenda

January 24-28, 2022

8:00 a.m. – 5:00 p.m. PDT

WFISC Members: Jerry Hepler (USFS, Chair), Shawn Zimmermaker (NASF, Vice Chair), Jeff Moyer (BIA, Primary Member), Scott Fischer (BLM, Primary Member), Jay Hinshaw (BIA, Primary Member), Steven Holmes (FWS, Primary Member), Brian Clavier (NASF, Primary Member), Jan Lemons (NPS, Primary Member), Neil Miller (NASF, Primary Member), Jon Handrick (NASF, Primary Member), Ryan Finn (NASF, Primary Member), Carrie Bilbao (CEPC Liaison), Deb Fleming (NWCG Program Coordinator), Alan Carlson (Associate Member), Curt Cogan (Associate Member), Jim Engel (Associate Member), Steve Grimaldi (Associate Member), Jeff Henricks (Associate Member), Ken Ness (Associate Member), Brenda Rice (Associate Member), Gary White (Associate Member), John Barnes (Associate Member), Chris Forkner (Associate Member), Mike Heath (Associate Member), Bruce Landrum (Associate Member), Trevor Maynard (Associate Member), Ken Pitt (Associate Member), Richard Woods (Associate Member), Lucas Wolf (Associate Member), Jeff Bonebrake (Associate Member), Jeremy Verdiel (Associate Member), Joe Hitselberger (Associate Member), and Lisa Hudema (Associate Member)

### January 24, 2022

WFISC Members in Attendance this Call: Jerry Hepler (USFS, Chair), Shawn Zimmermaker (NASF, Vice Chair), Jeff Moyer (BIA, Primary Member), Scott Fischer (BLM, Primary Member), Jay Hinshaw (BIA, Primary Member), Steven Holmes (FWS, Primary Member), Brian Clavier (NASF, Primary Member), Jan Lemons (NPS, Primary Member), Neil Miller (NASF, Primary Member), Jon Handrick (NASF, Primary Member), Ryan Finn (NASF, Primary Member), Carrie Bilbao (CEPC Liaison), Deb Fleming (NWCG Program Coordinator), Alan Carlson (Associate Member), Curt Cogan (Associate Member), Jeff Henricks (Associate Member), Ken Ness (Associate Member), Gary White (Associate Member), Trevor Maynard (Associate Member), Richard Woods (Associate Member), Jeff Bonebrake (Associate Member), Jeremy Verdiel (Associate Member).

Others in Attendance in person or on call: Jim Shanley (NFWA) and Stephen Rinaldi (NFWA)

Welcome and Agenda Expectations | Jerry Hepler

2021 Accomplishments | Jerry Hepler

- New NWCG, WFISC Members
  - Jan Lemons - National Park Service Chief Ranger
  - Jon Handrick - NE Region Staff Specialist, Minnesota: Fire, Enforcement, and Roads
  - Ryan Finn – CAL FIRE Deputy Chief - Civil Cost Recovery/Law Enforcement
  - Steven Holmes – US Fish and Wildlife Service - Wildland Fire Module Leader
  - Jeremy Verdiel - Government of Ontario, Fire Compliance and Prevention Specialist
  - Lisa Hudema - Wildfire Enforcement Superintendent, British Columbia Wildlife Services
  - Joe Hitselberger - Sr. Program Manager, Wildfire Operations, Portland General Electric

- FI-110 Certified and published by NWCG 2021
- Wildland Fire Investigation Team Member (INTM) transitioned to Wildland Fire Investigation Team Leader (INVL) on October 1, 2021
- Wildland Fire Investigation Team Leader (INVL) Task Book updated and published October 2021
- Wildland Fire Investigator (INVF) Task Book updated and published October 2021
- FI-110, Wildland Fire Observations and Origin Scene Protection for First Responders, FI-210, Wildland Fire Origin and Cause Determination, and FI-310, Wildland Fire Investigation: Case Development transitioned and available on the Wildland Fire Learning Portal (WFLP).
- Fire Prevention and Education page for the NIFC website currently in development
- FI-110 – Self-Directed Online Training (OLT) task group formed and moving towards request for bid
- FI-310, Wildland Fire Investigation: Case Development beta class was held in Redding CA, May 2021.
- PMS 412 – Revision Task Team is burning the candle at both ends.

#### NWCG Comments | Deb Fleming

- NWCG Glossary is transitioning to the EDG Enterprise Database. In the EDG, assigned subcommittee stewards will have the ability to update WFISC glossary terms as needed.
- Complex Incident Management Teams, a combination of Type 1 and 2 teams, will roll into some Geographic Areas starting 2022ish and finishing 2024ish.

#### Azimuth | Jerry Hepler & Deb Fleming

- Glossary Items (Azimuth) | Neil Miller, Shawn Zimmermaker and Scott Fischer will form a rough draft to present to the WFISC. The rough draft will include the current version, the FLETC's version, technology currently used and emerging technology to plug into the PMS-412.

#### Typing INV F | Alan Carlson

- Exploring the need to establish INV F as a recognized Single Resource or leveled position (like Crew Boss, Engine Boss, Dozer Boss etc.). Considering the complexities and importance of origin & cause determination, there is a strong case for this and adopting a typing system like other Fireline positions. Something to consider, typing INV F's could align with ICS fire complexities, such as: INV F3 for ICT3, INV F2/WIF12 Team for ICT2, INV F1/WIFT1 for ICT1.

#### WFSTAR First Responder Video | Carrie Bilbao

- Final stages. Open to some feedback but not looking to make major changes.
- Recommendations made included:
  - Change from Origin Area to Point of Ignition (not made as it wasn't deemed significant enough for target audience and identified too late in the process)

- Change from fire behavior indicator to fire pattern indicators (not made as it wasn't deemed significant enough for target audience and identified too late in the process)
- Date on FI-110 manual (made)
- Discussion on law enforcement and civil cost recovery actions
- A module document accompanies the video. It is designed to help with set up, class presentation, and provides additional resources.

#### NIFC INVF & INVLEducation Page (currently not live) | Carrie Bilbao

- Goal to provide information on what causes fire in hopes it provides people with a better knowledge on how to prevent them.
  - Information is presented in limited detail and is meant to be a brief summary
- Page currently consists of only 3 causes while in beta phase
- Still looking for input on the webpage. Provide feedback to Carrie after viewing the page.
  - Word document is planned to be added to Teams files for committee members to review and comment on.
  - The document will also be emailed to the group.
  - Seeking additional comments before it goes live.

#### Flickr page | Carrie Bilbao

- Page is built for the public to view. It provides pictures and descriptions of fire causes or fire prevention actions.
- Link has been provided to the group for review.
- If anyone has a photograph/video that would highlight fire investigations or fire prevention, you can provide those to Carrie.

#### FI-110 OLT Update | Jeff Henricks

- Would like to incorporate some of the video from the Wildland fire investigation and fire origin video
- Work on the storyboard is anticipated to be completed by the end of February
- Task order is needed to put it out to bid and secure a contractor.
  - Jeff and Deb will follow up on this to move it forward.

**January 25, 2022**

WFISC Members in Attendance this Call: Jerry Hepler (USFS, Chair), Shawn Zimmermaker (NASF, Vice Chair), Jeff Moyer (BIA, Primary Member), Scott Fischer (BLM, Primary Member), Jay Hinshaw (BIA, Primary Member), Steven Holmes (FWS, Primary Member), Brian Clavier (NASF, Primary Member), Jan Lemons (NPS, Primary Member), Neil Miller (NASF, Primary Member), Jon Handrick (NASF, Primary Member), Ryan Finn (NASF, Primary Member), Carrie Bilbao (CEPC Liaison), Alan Carlson (Associate Member), Curt Cogan (Associate Member), Jeff Henricks (Associate Member), Ken Ness (Associate Member), Gary White (Associate Member), Trevor Maynard (Associate Member), Richard Woods (Associate Member), Lucas Wolf (Associate Member), Jeff Bonebrake (Associate Member), Jeremy Verdiel (Associate Member), and Joe Hitselberger (Associate Member)

Others in Attendance in person or on call: Jim Shanley (NFPA) and Terry Taylor (Sierra Front)

FI-310 Learning Portal Demonstration and Beta 2 Preparation | Scott Fischer

- Where we have been – initial course developed ~2005 initial Beta 2007/08
- No real updates since, a lot of new case law in the last 10 years
- 2018/19 updates initiated. Major updates winter/spring '21. Review/reformatting of materials but no major case study updates. The big change was the addition of the Learning Portal
- May 2021 Beta class in Redding, CA, “good, bad and ugly” feedback
- Fire season stalled progress until January 2022

Complaints from FI-310 Beta:

- Course out of date
- Old case study – need new updates to the coursework based on the case. The current case is still valid but there is some bias based on the actual dates of the event (“this is so old...”)
- Lacking tech advancement, in course presentation and content utilized tech well, Ken Ness and Jeff Henricks presented from Canada “virtually” and interaction worked well. Important to find the right instructors for virtual
- “topic too basic”
- Lack of continuity between presentations, redundancy
- Course focuses on arson (supposed to be about complex case management)

Takeaways from FI-310 Beta:

- ID target audience, some students were “above” the level of the course
- ID the focus of the class
- Leverage the experience of both instructors and the students

- Provide for more class discussion opportunities
- Revise the prework to get rid of “busy work”
- Learning Portal is a good tool, and it can be expanded on
- Add exercises to increase participation and break up lectures
- Update materials to reflect current tech including social media IOT etc.
- Train instructors
- NEED BREAKOUT ROOMS!!!
- Virtual instructors can work very well, the right tech and individuals are key though

#### FI-310 Group Discussion

- Target Audience?
- Need peer review on presentation materials
- Many complaints can be resolved by setting expectations from start, changing course name to define the course as a complex arson case management is important.
- Student prerequisites:
- Requiring ICS-300 & ICS-400? (This would reduce the need for the basic level ICS discussion in unit 3)
  - ICS-300 recommended training for course completion
  - ICS-300 required training for Task Book completion
  - ICS-400 recommended training
- A subcommittee member with FI-310 course experience must be involved in the course if:
  - Course coordinator and lead instructor have never been approved to coordinate or instruct a course in the past

#### FI-310 Instructor Criteria:

- Lead Instructor – INVL qualified and successfully completed FI-310
- Lead instructor approved by the committee.
- All unit instructors approved by lead instructor
- Require lecture instructors have relevant and recent experience in topic

#### FI-310 Beta 2 Course Update

- May 2-6, 2022, two courses taught simultaneously, One in Reno and one in California

- Proposed change based on feedback
- Schedule changes based on last year's session to get 40 hours in class with 8 hours pre-work
- Set expectations up front
- Eliminate busy work
- Assign student teams ahead of time and require interaction during prework
- Move Unit 1 to prework
- Teach Excel and Google Earth in WFLP
- Updates to Unit 2 – this is the “most important unit so the time allotted will be increased to cover more case studies, exercises etc.
- Practical exercises will need to be updated
- Unit 4 investigative techniques – looking to go deeper into the topics
- Units 6 (warrants) and 7 (interviews) will be more focused on specific lessons learned etc.
- Learning portal demonstration

#### NFPA Update | Jim Shanley

- NFPA 921 – Guide for Fire and Explosion Investigations – 1<sup>st</sup> edition was in 1992, present edition is 2021
- NFPA 1033 – Standard for Professional Qualifications for Fire Investigation, 1<sup>st</sup> published in 1987
- NFPA 1321 – Standard for Fire Investigation Units – in draft form, 2024 proposed publication. Effort was initiated at the request of the OSAC (Organization Scientific Area Committee) Fire Investigation group in response to efforts to standardize forensic science.
- Jim went over responsibility of the NFPA Technical Committee, which started in 1985
- In the early days of NFPA 921 there was no scientific backing, very little or no published research, no validation, no testing (pre-Daubert). Therefore, the intent was to develop a new document based on science, reliable methods etc. Wanted it to be a guide, non-mandatory, instructional. Looked at methodology, long-held teachings, and practices.
- Guide: not mandatory, recommended procedures, advisory, instructional
- Standard = mandatory if authority adopts it as a standard.
- Code: may be adopted
- NFPA has revision cycle for documents of 3, 5, or 7 years
- Wildland Fire Investigation and NFPA 921:
- Wildland fire investigation chapter first appeared in 2001 edition

- A Task Group started in 2020 for the 2024 edition to revise/update, with objectives:
  - Harmonize terminology (a grad student has been assigned, identify terms in 921 and PMS 412, identify commonalities and differences, produce a table of comparison)
  - Source references (identify and compile list of references used in 921 and 412, identify where it is located, find a host library)
  - Process public input
  - Draft new chapter, with Steve Rinaldi as the Chair

## January 26, 2022

WFISC Members in Attendance this Call: Jerry Hepler (USFS, Chair), Shawn Zimmermaker (NASF, Vice Chair), Jeff Moyer (BIA, Primary Member), Scott Fischer (BLM, Primary Member), Jay Hinshaw (BIA, Primary Member), Brian Clavier (NASF, Primary Member), Jan Lemons (NPS, Primary Member), Neil Miller (NASF, Primary Member), Jon Handrick (NASF, Primary Member), Ryan Finn (NASF, Primary Member), Carrie Bilbao (CEPC Liaison), Alan Carlson (Associate Member), Curt Cogan (Associate Member), Jeff Henricks (Associate Member), Ken Ness (Associate Member), Gary White (Associate Member), Trevor Maynard (Associate Member), Richard Woods (Associate Member), Lucas Wolf (Associate Member), Jeff Bonebrake (Associate Member), Jeremy Verdiel (Associate Member) and Joe Hitselberger (Associate Member).

Others in Attendance in person or on call: Jim Shanley (NFPA)

Exploding Targets, Backing Fire Indicators & Cigarette Testing | Ness & Henricks

- See papers when published

FI-210 Learning Portal Demonstration and Update | Hepler & Fischer

- Wildland Fire Learning Portal demonstration
- Reviewed Prework
- Reviewed Indicator Test

Powerlines | Joe Hitselberger

- Newer product being used called Tree Wire. Lightly coated wire used in areas prone to power line strikes from vegetation or trees. May present differently in a ground strike as opposed to uncoated power line.
- Utilities must pull fuses or ground power lines to protect on scene personnel from potential backflow.

PMS-412 Revision and Chapter Review | Shawn Zimmermaker

The PMS 412 task group has identified several topics to highlight, these are listed below:

- Standardization of photographs and diagrams
  - Include advancing, backing, or lateral symbol
  - Include wind direction
  - Include fire direction arrow
  - Include last name
- Curling indicator
  - Discussion on curling as a standalone or more of a freezing indicator
  - Curling - look at removing from document, leave reference to droop, currently under foliage freeze
- White Ash
  - Exposure versus deposit
  - Concentrated fuels/LWD
  - Micro and macro
- V/U patterns
  - Discussion on potential renaming
  - Convex, elliptical, funnel, other
  - When a V forms versus when a U forms
  - Language change to clarify if the shape is a general shape observed by an investigator
  - V/U Pattern - Dive deeper into the differences between V and U and eliminate and/or in reference to both, i.e. V/U instead of V or U, V and U or expand on the broadness of a V.
- Photograph file structure identified and created on DOI Teams.
  - Please follow new protocol listed above

Assignments for Task Teams | Jerry Hepler

- Excel spreadsheet created for Task Teams
  - Spreadsheet located on DOI Teams

**January 27, 2022**

WFISC Members in Attendance this Call: Jerry Hepler (USFS, Chair), Shawn Zimmermaker (NASF, Vice Chair), Jeff Moyer (BIA, Primary Member), Scott Fischer (BLM, Primary Member), Jay Hinshaw (BIA, Primary Member), Brian Clavier (NASF, Primary Member), Jan Lemons (NPS, Primary Member), Neil Miller (NASF, Primary Member), Jon Handrick (NASF, Primary Member), Ryan Finn (NASF, Primary Member), Alan Carlson (Associate Member), Curt Cogan (Associate Member), Jeff Henricks (Associate Member), Ken Ness



(Associate Member), Gary White (Associate Member), Trevor Maynard (Associate Member), Richard Woods (Associate Member), Lucas Wolf (Associate Member), Jeff Bonebrake (Associate Member), Jeremy Verdiel (Associate Member), and Joe Hitselberger (Associate Member).

Others in Attendance in person or on call: Videography of Fire Pattern Indicators

Reference Manual Chapter Review | Alan Carlson

- Initial draft of chapters 1,2,3 and 4 are done and out for review. This is the time for major changes
- Initial drafts are amended to reflect comments. Generally ~90% of comments make it into this version
- Completed chapters are then tabled while other chapters are revised/reviewed
- All documents will be uploaded to Teams for comments so all members can see what others are saying and respond.

Reference Document Table of Contents:

- Chapter 0 - Administrative
  - Not completed yet....basic explanation of the relationships/concepts etc. prefaced with an explanation that each investigation is unique, and it is up to the individual INVf to determine the process utilized.
- Chapter 1 - Safety
  - Drafted and submitted for comment, revisions complete, sent out to WFISC. Currently tabled for assembly with other chapters for final WFISC review.
- Chapter 2 - Wildland Fire Anatomy
  - Drafted and submitted for comment, revisions complete, sent out to WFISC. Currently tabled for assembly with other chapters for final WFISC review.
- Chapter 3 - Wildland Fire Chemistry
  - Drafted and submitted for comment, revisions complete, sent out to WFISC. Currently out for review by WFISC
- Chapter 4 - Fire Behavior Context
  - This was originally part of Chapter 3; it was broken out during this process Drafted and submitted to WFISC for comment
- Chapter 5 - Introduction to Fire Pattern Indicators

- Used to be fire pattern indicators, it became apparent that there needed to be a leadup separate from the actual specific indicator description. Drafted, out for review by some of the task team waiting on comments then it will be released to WFISC.
- Chapter 6 - Fire Pattern Indicators
  - Currently working on this chapter. This is a big chapter with a lot of information. Very rough draft of each indicator has been drafted, needs more refining before going out for review.
- Chapter 7. Methodology
  - Currently being looked at on occasion but nothing completed
- Chapter 8. Systematic Approach – Assignment, Response, Initial Scene Assessment
- Chapter 9. Systematic Approach – Ignition Area Determination
- Chapter 10. Ignition Factors and Sources
- Chapter 11. Evidence
- Chapter 12. Witness Statements and Interviews
  - Ken Ness is working on Chapter 12; first draft has been submitted to Alan. Focus is on questions that an investigator should be asking witnesses concerning information they may have where the fire started or other observations. Witness Interview only
- Chapter 13. Documentation
- Chapter 14. Arson Recognition
- Chapter 15. Case Presentation and Testimony

Jeff Henricks – Chapter 3 comments, fuel samples comments

- 3.3.2.2 and 3.3.2.3 fuelsampling is beyond the INVFC capability. There are very few folks capable of forensically evaluating fuels. This is a job for specific researchers.
- WFISC voted, majority wants to modify this language and move it from fire chemistry to evidence.

Added discussion around PMS 412 regarding Angle of Char:

- Grass clumps – should terminology be changed? Is it more like protection?
- Manual revisions have pulled it out and put the grass clumps under protection/degree of damage.
- “Angle of Consumption”
- Majority of members are in favor of clarifying the issue in this revision of guide/manual.
- Discussion of where to place it in guide
- Decision is to leave it where it resides currently and clarify.

## Videography of Fire Indicators | Curt Cogan

- Explore the possibilities of using video to enhance the classroom fire Investigation pattern indicator training in FI-210.
- Outdoor burning needs to remain the same, as students need to see, and work burn areas
- We need IR and high-definition video to show how fire indicators are created. Could be used across the field. Whatever we can do to enhance the program, we should be doing.
- The group voted to pursue funding for this project.

## Archives | Jesse Bender

- It was decided that NWCG is the best place to create and house the Archives
- Richard Woods and Jerry Hepler will process the grant proposal

## Next WFISC Microsoft Teams Meeting

- Date: March 23, 2022
- Time: 12:00 p.m. PDT
- Location: Virtually on Microsoft Teams and Conference Line