Date: 9 May 2017

TO: Dalan Romero, Chair, NWCG Executive Board

FROM: Dianna Sampson, Chair, NWCG Fire Reporting Subcommittee(FRSC)

SUBJECT: Fire Reporting Subcommittee Response to NWCG Tasking Memorandum 16-004: IT Capability Requirements for Fire Reporting – NWCG Assistance to the Fire Management Board(FMB)

Purpose: The Fire Reporting Subcommittee (FRSC) has generated this report in response to a request from the FMB to define interagency wildland fire reporting IT capability requirements. This specific report is focused on identifying capabilities necessary to meet the needs of all agencies and bureaus, and to achieve the vision of "one fire, one report, one authoritative data source."

Process: The FRSC worked with the Wildland Fire Information Technology (WFIT) Line of Business study staff, in coordination with the Data Management Committee to determine the report findings. The analysis process consisted of:

(1) Identification of, and descriptions for, all fire reporting related products and services produced for fire management purposes
(2) Analysis of work processes that are used to produce fire reporting related products and services
(3) Identification and definition of fire reporting capability requirements to generate key fire reporting related products and services
(4) Mapping of current IT applications (tool set) against the identified products, services, and capability requirements
(5) Review of the proposed features of the interagency Fire Occurrence Reporting Application (FORApp), which is being developed as a pilot project under WFIT
(6) A vision of interagency fire reporting capabilities to remain valuable and relevant over the next 10-15 years

Findings:
Currently, there are 3 federal applications and numerous state and local systems being used to meet wildland fire reporting needs. In addition, there are several other applications, including Computer Aided Dispatch (CAD), Wildland Fire Decision Support System (WFDSS), and Incident Status Summary reporting (ICS-209), that collect data that are manually replicated in fire reports. Currently, only one of the three fire reporting applications is connected (READ Only) with the Integrated Reporting of Wildland-Fire Information (IRWIN) data exchange utility. Further integration would eliminate the need for redundant reporting and fulfil other needs.

The fire reporting capability analysis identified 19 critical fire reporting capability requirements. Of the 19 identified fire reporting capability requirements, 8 are not met at all by any system, and 3 could potentially be fulfilled by IRWIN. Of the remaining 8 requirements that are currently met, only 1 scored above the lowest level of satisfaction (poorly).

The analysis reveals significant deficiencies and inefficiencies. Most notably, the fire reporting community is unable to reliably answer the most fundamental questions: how many fires occurred and how many acres burned? Therefore, this assessment concludes that the interagency fire reporting IT requirements are unfulfilled by the current suite of applications, which were all scored at the worst level of performance possible. With the advent of the FORApp, there are detailed plans to meet every one of these requirements with effectiveness and efficiency, with expectations to pursue and achieve the highest possible ratings.

With regard to existing fire reporting capabilities, the assessment primarily focused on the 3 federal applications[1]; however, the performance of the numerous state and local fire reporting applications is similarly deficient.

The entire list of interagency fire reporting capability requirements is presented below.

Number	Capability	IT applications that address the capability	How well? (1= Poorly, 3=Well)	Comments
1	Near real-time access to fire occurrence data	IRWIN Observer	3	Observer displays data near realtime but cannot be edited natively, edits are made by existing connected systems. Currently, fire reporting systems are not connected to IRWIN so the benefit is not realized
2	Record one official record per fire event	None	NA	Currently there are multiple reports per incident, usually one per agency
3	Detect duplicate records	IRWIN	2	IRWIN runs a get conflict routine that can identify duplicates. Not a 3 because there is no logic to identify the true record
4	Access the fire record from one authoritative source	None	NA	Currently each agency collects its own data, and the records are stored in multiple locations
5	Ability to have other systems collect fire reporting data	IRWIN	3	This is IRWIN's bread and butter. Currently, fire reporting systems are not connected to IRWIN so the benefit is not realized
6	Spatially derived data	None	NA	Does not exist. We have identified at least 25 data elements that are spatially derivable.
7	Collect minimum required interagency data (common)	WFMI, FMIS,Firestat	1	The standards for the agreed upon minimum data are not followed universally
8	Ability to enter and edit fire reporting data	WFMI, FMIS,Firestat	1	The current fire reporting systems do this poorly beacause data that exists must be hand entered in multiple systems
9	Ability to modify records with accurate information as it becomes available.	WFMI, FMIS,Firestat	1	This is done poorly in the current systems because it is a manual process completed long after an incident is over
10	Mobile data collection	None	NA	No system currently has a mobile app
11	Off line data collection	None	NA	No system currently has a mobile app
12	Ability to review/approve records	WFMI, FMIS,Firestat	1	This is done poorly in the current systems because it is not captured - just inferred by who completed the record. No digital signature is used.
13	ability to collect point of origin spatially	FMIS	1	FMIS has a map interface where a POO can be collected, but not derived from physical location
14	Ability to collect fire perimeter spatially	FMIS	1	FMIS has a map interface where a perimeter can be uploaded, but not captured in a mobile environment
15	Common access to authoritative fire occurrence statistics for reporting	None	NA	This is a tedious process at best. Unofficially, we use Karen Short's database with typically 2 years of lag time- even then its not technically "Authoritative".
16	Create reports and summaries on fire records	WFMI, FMIS,Firestat	2	Current systems allow "canned" reports
17	Access to historical fire occurrence data	WFMI, FMIS,Firestat	1	Current systems allow view access to all records for users of that system. This works well for each agency, but poorly in an inter agency realm.
18	Ability to bulk upload	None	NA	Not available in any known system, each record is painstakingly hand entered
19	Ability to tie resources to fire records	None	NA	WFMI has an optional IA resources group of data but it is not widely used, and data there is entrirely suspect

Summary: The intent of this analysis is to inform WFIT investments to advance the efficiency and effectiveness of fire reporting related products, services and applications; as well as provide a basis for continued support of critical capabilities. This analysis may be used to formulate a roadmap of fire reporting related IT investment needs for the next 10-15 years. In addition, this analysis provides a foundation to crosswalk applications that currently fulfill fire reporting capabilities to future application investments.

[1] The federal fire reporting applications are:

- Wildland Fire Management Information (WMFI) – Used by Bureau of Indian Affairs, Bureau of Land Management, and National Park Service
- Fire Management Information System (FMIS) – Used by Fish and Wildlife Service
- Fire Statistics System (FIRESTAT) - Used by US Forest Service

Recommendation: The FORApp can fulfill these 19 interagency fire reporting IT capabilities at the highest performance level, so continued support for the FORApp pilot and its future development and implementation is strongly recommended.

Contact: Please direct questions regarding this analysis or requests for analysis documentation to Dianna Sampson (dsampson@blm.gov) or Paul Schlobohm (pschlobo@blm.gov).