IDNR – Division of Forestry, Fire Control

Early Chronology of Indiana forests and legislation:

1899 -- The Forest Reservation Law was the first forest legislation in Indiana, however there were no appropriation dollars for administration.
1905 – The General Assembly passed the first Indiana Fire Laws
1919 -- The various Boards, including that of Forestry, were consolidated into the Department of Conservation.
1927 -- Power was given to the Division to detect and suppress fires on private land, using money from the Forestry fund.
1929 -- The Clark-McNeary Fire Law was approved by the State Legislature and brought in Federal funds that could be used for fire suppression.
1931 – Legislature authorized state funding for fire fighting.
1933 – Established the Emergency Conservation Work program and the Civilian Conservation Corp (CCC).
1934 – First coordinated fire prevention programs began.
1935 – Fire Wardens were appointed and the first Fire School was held.
1936 – New fire organization within Division of Forestry formed.
1942 – Forest Fire Fighters Service (FFFS) was organized in Indiana.
1943 – Indiana Defense Council helped organize and train volunteer Civilian Defense Forest Fire Fighters during World War II.
1947 – Forestry Fund amended to include fire funding.
1954 – Division is able to procure fire equipment through the Federal Excess Property Program.
1964 – Georgia Fire
1964 – First Fire Coordinator appointed for the Indiana Division of Forestry.
1965 – The Indiana Department of Conservation became the Indiana Department of Natural Resources.
1976 – Dispatched the first out-of-state crew to assist with national fire fighting efforts.
1994 – Celebrated the 50th Anniversary of Smokey Bear and Fire Prevention

Historical Record of Fire in Indiana

Man has burned Indiana's forests for centuries. Native Americans used much of Indiana as hunting grounds and set fire to drive game or improve forage habitat for game. Studies from tree rings in the southern part of the state indicate fire was used on a 5-7 year cycle in much of our forests.

When European settlers came into the region they were more interested in clearing land for farming than in using the trees that forested our state. Some trees were sawed and used for homes and farm buildings, but the vast majority of the trees were cleared and burned. Reportedly, neighboring farmers got together and had timber burning bees.

There was also a tradition of burning brought to the New World by the Scotch and Irish settlers. In their homeland these people had regularly burned the heath to improve forage quality for their livestock. The Scotch and Irish believed that by burning the forests, they would increase the amount of forage for their livestock and kill fever germs and varmints. Over time a culture of spring burning was passed down to generations without basis or an understanding of the impact of fire.

Cornell Kemper, a Fire Warden in Dubois County, remarked that up through the 1950's, certain areas were known for a culture that encouraged burning the woods. He noted that well-meaning locals who believed they were keeping down the number of ticks and snakes continually burned southeastern Martin and northeastern Orange County's woods, an area he referred to as Lagenour Ridge. Kemper remembers the locals being friendly to fire suppression crews, but never offering to help.

Violet Harrell, wife of a Lawrence County fire warden recalls many fires were caused in the spring when people were burning off their gardens and fields. Arsonists were also responsible for a large number of fires. One man, she recalls, was finally arrested when they discovered he had been setting fires when he ran out of tobacco. He'd wait for the firefighters to show up and then bum tobacco off them.

By 1938, records showed the primary cause of forest fires in Indiana was the burning of brush piles, fields, fencerows, and ditch banks. Early "Forest Fires of Indiana" publications provided educational information on options for burning. The publication had cost comparisons and results of burning versus plowing or bush hogging in controlling weeds and insects. Careless smokers were the second major cause of fire starts. Lightening or other natural causes account for less than one percent of forest fires in Indiana.

The years during World War II saw an increase in railroad fires as the supplies shipped by rail increased and the demand for train resources pushed defective equipment and inexperienced personnel into service. In 1943 there were 38 fires attributed to railroads, burning 4,054 acres. The war years also saw a constant change-over in personnel that made it difficult to keep fire-fighters trained and organized.

Fire Laws In Indiana

In 1905, when the first fire laws were passed, according to reports "there was great rejoicing among the heads of the Conservation Department at that time." The Secretary of the Board of Forestry went so far as to say this was the best piece of forest fire legislation yet passed in all of America, that it could not help but work, and declared the fire problem was finally solved. Time has proven them wrong, but the fire laws were indisputably, an important early step in fire control.

Under the 1905 Act it was provided that for setting fire to any woods belonging to another, or for placing fire on one's own property and permitting it to spread to the woods of another, there be a fine of from $5 to $50. Further liability was incurred to the owner or owners for damages sustained. It also became the duty of the prosecuting attorney to faithfully investigate and prosecute each case. Failure to do so would be sufficient evidence for his removal from office and his bondsman would be liable for the full damage sustained.

Another section of the Act provided imprisonment for anyone setting fire maliciously. It also appointed the Township Road Supervisor as responsible for suppressing forest fires and authorized him to hire labor for this purpose at $1.50/day. The setup was doomed to fail because, while the road supervisor had the authority to use his labor and his appropriations on the suppression of forest fires, the money came out of his regular road budget. No additional funds were appropriated for this purpose. The road supervisor was elected to construct and maintain roads, and knowing the condition of the roads would determine his success or failure, usually did very little on forest fire suppression.

As Americans became more aware of the impact and costs of wildfires, the timing was right, in 1921 for the Clarke-McNeary Act, sponsored by Senators McNeary of Oregon and Clarke of New York. This Act allotted funds to the Forest Service, which were in turn passed on

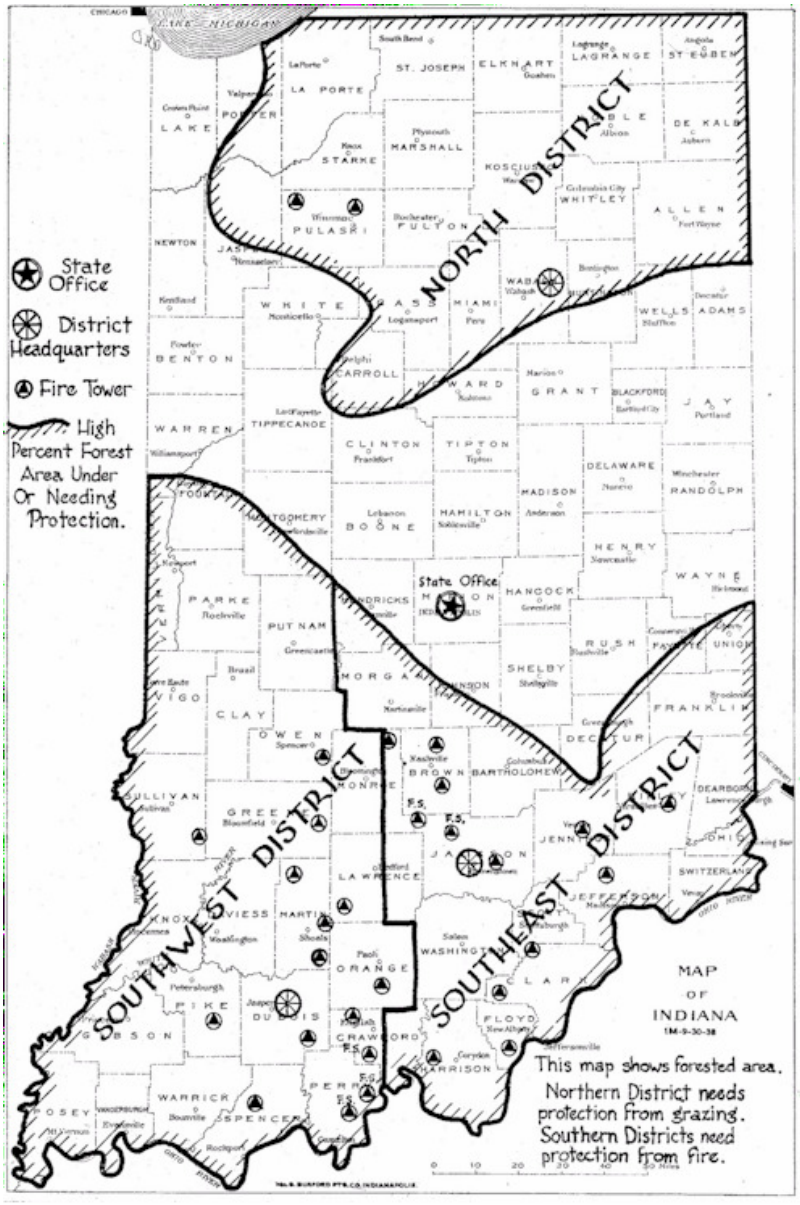
to states who had forests to protect and who met certain technical requirements. The Indiana State Legislature did not comply with this law until 1929, when personnel at state forests, Brown County Game Preserve, and Dunes State Park were organized bringing the Department in line with requirements to qualify for federal funding.

After the Indiana Senate defeated the forest fire bill in 1930 on the grounds that no serious problem confronted Indiana, State Forester Wilcox took George Freeman of the State General Assembly up for an aerial tour of southern Indiana. They spotted five going fires. As a result of this experience, in 1931, the 2-mill forestry tax was amended by the state legislature to include forest fire protection on both state and private lands.

The Forestry Fund was amended in 1947 to include fire funding. The General Assembly levied a portion of property taxes to be used for the prevention, detection, control and suppression of forest fires, as well as other forest-related endeavors. This Act outlined the responsibilities of the Division of Forestry in fire fighting and granted wildland firefighters the same rights of access as municipal firemen. It also provided that fire fighters could "set back fires, dig trenches, cut lanes, and use all other modern methods of fire fighting on private lands."

The Act further directed the Indiana Department of Conservation to work with volunteer fire fighters, establishing the Indiana Volunteer Forest Fire Fighters Service.

The State Fire Warden is shown here providing evidence to support the prosecution in a fire trespass case brought by the US Forest Service in County Court.



The number of State Districts varied over time, in 1943, this map shows the three districts operating at that time. The northern district focused on protection from grazing. The southern district's focus was on fire protection. Regardless of how many districts the area was divided into, the general boundaries of the fire protection area have remained the same. By 1952 Indiana was organized into 9 districts and in 2001,there 18 forest districts.

Fire Program and Organization

Historically, the forest fire program has been divided into three activities: prevention, detection, and suppression.

Prevention consists of education on using care with fire, safe burning techniques, removal of fire hazards, and the development of barriers such as firebreaks and roads.
Detection has included a system of fire towers or lookouts connected to a centrally located headquarters, fire wardens, aerial surveillance, and cooperative relationships with local fire departments and landowners.
Suppression consists of the actual effort to combat fire, as well as the training and equipping of the suppression organization.

In 1937 Indiana participated in a national campaign kicked off by President Roosevelt. With approximately forty million acres lost to fire each year across the nation, this campaign featured Uncle Sam as a forest ranger. The message spoke to the human element of fire, emphasizing people's responsibility in protecting the forest. The message- "Your Forests – Your Fault – Your Loss" was a powerful message for the public.

The fire suppression forces organized in 1929 began to slowly grow when, in 1933, the Civilian Conservation Corps (CCC) Camps were established in the forested areas of the state. The CCC boys, under the supervision of foresters, immediately assumed fire suppression responsibilities, and the volunteer organizations languished or played only a minor role. The availability of the CCC as fire fighters led to a growing carelessness on the part of people who thought if their fire did get out of control, the CCC boys would put it out. In fact, several camps were little more than fire departments in the dry season. Time, which could have been spent by the CCC in useful construction and maintenance projects, was instead spent suppressing countless wildfires.

In 1936 a new organization was established to focus on forest fires in Indiana. Two trained foresters were hired to devote their entire time to prevention, detection, and suppression of forest fires. The two men worked with the U.S. Forest Service to develop a cooperative budget to erect fire towers and telephone lines and fund educational work connected with forest fire protection. More on fire towers, fire wardens and the early fire organizations is included later in this chapter.

The fire season in 1938 was one of the most destructive in memory with 27,000 acres reported burned in the first two weeks of November. As a result, in 1939, to better address the fire suppression needs, the state expanded its fire force to 60 temporary wardens and 600 temporary fire guards.

In order to provide better information on fire danger, in 1939 six fire weather stations were established at strategic points including Morgan-Monroe and Clark State Forests. Today IDNR maintains one weather station at Harrison Crawford State Forest. In addition, information from two U.S. Forest Service fire weather stations, one south of Lake Monroe and one at St. Croix, is available to the State.

By 1939, Indiana had agreements in place with the Soil Conservation Service, the U.S. Park Service, and the U.S. Forest Service for the purpose of coordinating fire control work throughout the state. These agreements have changed over time, but wild fire protection in the state is still shared with the U.S. Forest Service.

During the period from July 1, 1940 to June 30, 1941, Indiana burned 80,159 acres, the highest annual acreage since organized fire protection had begun. State Forester Paul Yost brought on two District Foresters at the central office to head up the property, fire, and forest

classification programs. He hoped that by strengthening his state forces he could better cope with future severe fire years.

During the War Years, with the closing of the CCC camps and the expansion of war industries, it became difficult to find manpower of any kind. To combat the shortage of manpower, many women were employed as observers on state fire towers.

The Indiana Defense Council was called on to help organize and train civilian defense volunteer forest fire fighters to hold the line. During this same period, the areas surrounding the U.S. Naval Ammunition Depot in Martin County, the Jefferson Proving Ground near Madison, and Camp Atterbury near Columbus, were given increased fire protection under provisions of the Sixth Supplemental National Defense Act and the Clarke-McNary Special Emergency Act that provided 50 percent of the funds for protecting these critical areas. Fire personnel were employed on these projects throughout the hazardous periods of the year.

Joseph S. DeYoung was employed during this period to organize and supervise the statewide program of Civilian Defense Forest Fire Fighters. The program trained thousands of high school students and adults for emergency use in fire fighting.

In 1959, part of the State's fire fighting organization was transferred from the Division of Forestry to the Division of Enforcement within the Indiana Department of Conservation. The transfer involved a shake-up that made headlines as five district and 20 county fire wardens lost their jobs. Ralph Wilcox, State Forester, defended eliminating the positions when $85,000 was cut from his budget. The State's position was that enforcement officers could do fire-fighting work more efficiently. Stationing laborers at fire towers during peak fire seasons was expected to result in further savings.

Once the Division of Enforcement took control of the fire program, fire protection coverage was expanded from 22 counties to 48 counties. John D. Rawlins, Director of the Enforcement Division of 116 conservation officers, pledged to step up fire protection and educational work in all 92 counties.

Indiana Department of Conservation, Division of Forestry established a new position of Fire Coordinator in July 1964. This position was established to work directly with the Law Enforcement Division and other related agencies to take the lead in the state's fire control program. G.T. (Bill) Donceel was the first person to fill this position. His duties also included training personnel in fire prevention, detection, suppression, and communications. The position was located at Fire Control Headquarters in the Morgan-Monroe State Forest.

Initially the staff at Fire Headquarters included a "Quartermaster" officer who managed the equipment program and served in a dual capacity in law enforcement; an assistant who inspected fire towers, an equipment operator, a mechanic, and a communications specialist.

In 2001, Fire Headquarters staff includes the State Fire Coordinator, two assistant positions, a fire prevention coordinator, a program coordinator, two heavy equipment operators and two mechanics. The staff is responsible for not only the fire program, but also manages vehicles and equipment for the Division of Forestry.

The warehouse at Fire Headquarters is shown here in 1964 with a line up of new trucks to be outfitted for fire.

Indiana has always had adequate manpower and equipment for normal fire seasons. It was only in severe seasons, such as 1964, that the resources were stretched too thin to meet the needs. In 1965, G.T. Donceel made the case that Indiana lost one-third more acres per fire than other central states because of a shortage of men and equipment. The emphasis obviously needed to shift to equipping and training more volunteer units and establishing units in counties that were outside protection districts. Donceel's appeal included that Indiana had historically been funded at a lower level than adjacent states. In example, in 1963, Indiana's fire protection expenditures were $0.043/acre; Illinois spent $0.069/acre, Ohio spent $0.114/acre and Michigan spent $0.142/acre. REST OF THE STORY?

The Division of Forestry has wildland fire responsibility for 7.328 million acres in the state. The role the division has played in wildland fire has markedly changed over time. As rural fire departments play a stronger role, the department's focus has shifted to supporting these rural and volunteer fire departments. Today, roughly 95 percent of all wildland fires in Indiana are suppressed by these fire departments.

The position of Indiana Fire Coordinator has been held by:

G.T. (Bill) Donceel, 1964-1968
Les Shannon, 1967-1968
Bill Willsey, 1969- 1978
Steve Creech, 1978-Present

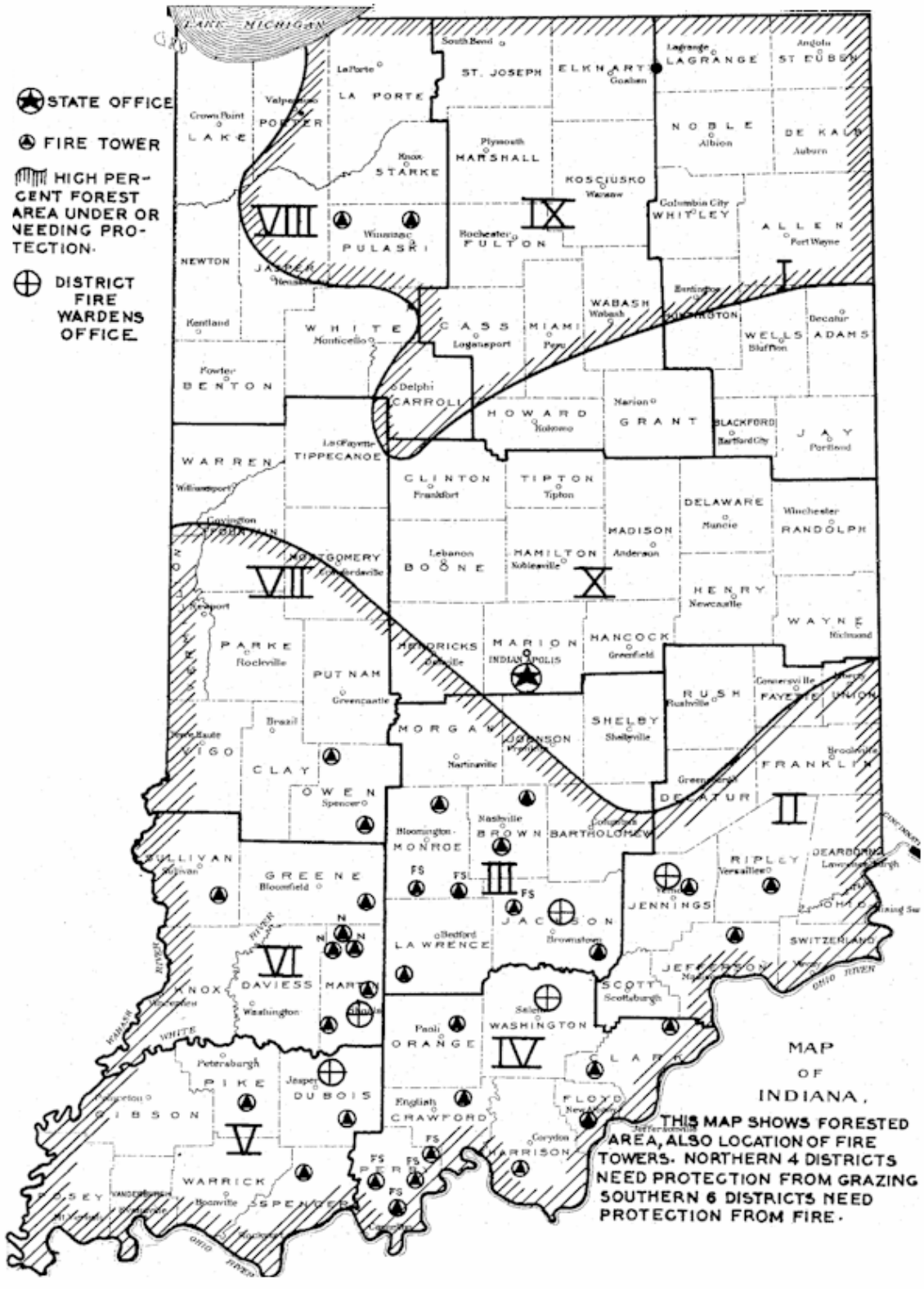
Lookout Towers

Ralph F. Wilcox who became State Forester in 1929, had come to Indiana from Pennsylvania and was well aware of the ravages of wild fire. He immediately began to lay plans for the construction of fire towers and better methods of organizing fire crews. At the time, Indiana had only one fire tower, located at Clark State Forest. The tower bore a sign proclaiming "Stay off. Unsafe to climb."

One of the first challenges was determining where the high points were to build the towers. In the mid 1930's, Indiana was one of few states that had not been completely mapped

topographically. Without elevation maps, the job of locating towers on the most efficient high points was a hit or miss proposition. After 20 fire towers were erected, a complete visibility survey, with the use of special precision instruments, found that three towers had to be dismantled and moved, the remainder needed to be extended twenty feet in height, and eleven additional towers were needed.

By 1952 there were 32 towers in the state. A map and listing of their location follows:


STATE OFFICE
FIRE TOWER
HIGH PERCENT FOREST AREA UNDER OR NEEDING PROTECTION.
DISTRICT FIRE WARDENS OFFICE
LAKE MICHIGAN
LAKE
PORTER
LA PORTE
ST. JOSEPH
ELKHART
LAGRANGE
STEUBEN
NOBLE
DE KALB
STARKE
MARSHALL
KOSCIUSKO
WHITLEY
ALLEN
PULASKI
FULTON
NEWTON
JASPER
WHITE
CASS
MIAMI
WABASH
WELLS
ADAMS
BENTON
CARROLL
HOWARD
GRANT
JAY
WARREN
TIPPECANOE
CLINTON
TIPTON
DELAWARE
RANDOLPH
MADISON
MONTGOMERY
BOONE
HAMILTON
HENRY
WAYNE
PARKE
PUTNAM
HENDRICKS
MARION
INDIANAPOLIS
HANCOCK
RUSH
FAYETTE
UNION
VIGO
CLAY
MORGAN
JOHNSON
SHELBY
FRANKLIN
OWEN
DECATUR
MONROE
BROWN
BARTHOLOMEW
RIPLEY
DEARBORN
SULLIVAN
GREENE
JENNINGS
JACKSON
LAWRENCE
SWITZERLAND
KNOX
DAVIESS
MARTIN
SCOTT
JEFFERSON
WASHINGTON
ORANGE
PIKE
DUBOIS
CRAWFORD
FLOYD
GIBSON
HARRISON
WARRICK
SPENCER
PERRY
MAP
OF
INDIANA.
THIS MAP SHOWS FORESTED AREA, ALSO LOCATION OF FIRE TOWERS. NORTHERN 4 DISTRICTS NEED PROTECTION FROM GRAZING SOUTHERN 6 DISTRICTS NEED PROTECTION FROM FIRE.

IDNR Towers

COUNTY	NAME OF TOWER	Location Of Nearest Town/State Property
Brown	Lily Fire Tower	Bear Wallow (near Nashville)
Brown	Weed Patch Tower	Brown County State Park
Clark	Henryville Tower	Clark State Forest
Clark	Borden Tower	Borden, IN
Crawford	Spears Tower	Taswell, IN
Dubois	Ferdinand	Ferdinand State Forest
Floyd	Hickman Hill Tower	Lanesville, IN
Greene	Cincinnati Tower	Cincinnati, IN
Harrison	Wyandotte Tower	Harrison State Forest
Jackson	Skyline Tower	Jackson State Forest
Jefferson	Five Points Tower	Lancaster, IN
Jennings	Muscatatuck Tower	Muscatatuck State Park
Lawrence	Georgia Tower	Mitchell, IN
Martin	Lacy Tower	Lacy, IN (near Shoals)
Martin	Willow Valley Tower	Martin State Forest
Monroe	Mason Ridge	Morgan-Monroe State Forest
Morgan	Wilbur Tower	Martinsville, IN
Orange	Orange Fire Tower	Paoli, IN
Owen	McCormick Tower	McCormicks Creek State Park
Owen	Cataract Tower	Cloverdale, IN
Pike	Hartwell Tower	Pike State Forest
Pulaski	Jasper-Pulaski Tower	Jasper-Pulaski Game Reserve
Pulaski	Winamac Tower	Tippecanoe River State Park
Ripley	Versailles Tower	Versailles, IN
Spencer	Lincoln City Tower	Lincoln State Park
Sullivan	Pleasantville Tower	Greene-Sullivan State Forest
Washington	Salem Tower	Salem, IN

The U.S. Naval Ammunition Depot at Burns City in Martin County operated three towers during World War II.

U.S. Forest Service Towers

BROWNSTOWN DISTRICT

Jackson	Houston Tower
Monroe	Dutch Ridge Tower
Monroe	Hickory Ridge Tower

LAFAYETTE DISTRICT (now Tell City)

Perry - Marchand Tower, Buzzard Roost Tower, Spears Tower, and West Fork Tower

If the fire tower was located on state property, the property furnished the towerman. Other towers were manned by local personnel who were paid as needed. G.T. Donceel remembers the system as mostly working well, “if they were needed, and the fire danger was high, they were always up in their towers.” However Donceel notes some towermen were in the towers when it rained just to put in more hours.

Not all the fire towers were manned by men, at least two women are known to have served as regular lookouts in Indiana towers. In addition, during World War II, with so many men serving in the military, many women filled in as tower lookouts.

Clarisse Carroll, towerwoman for the Georgia Tower explained how her tower was constructed and what the lookout's job was from 1950-1970:

"Fire towers were constructed of four angle ironbars, set in deep concrete about twenty feet apart, four square and ending a hundred feet in the air. There is a seven by seven foot cab constructed of a wooden floor, sheet metal and glass sides and a metal roof. One side of the floor is a door which the towerman lifts on his shoulders to enter and which he lets down on his back as he leaves. Inside the cab is a cabinet, directly in the center of the room on which rests an alidade, (an instrument also called an Osborne Fire Finder consisting of a map mounted on a round rule marked off in degrees) used in mapping. The cabinet has a door and has room to store the psychrometer and weather book by which the towerman determines the fire danger.

The psychrometer, an instrument with a wet and dry bulb thermometer, is used for measuring the amount of moisture in the air. Three times a day, the `towerman' would leave the tower, go to the ground and twirl the psychrometer to pick up the air moisture and then mount the tower again and record the readings. One of the thermometers had a cloth fastened to the mercury end to catch the moisture in the air. It was necessary to go to the ground to take the weather reading as the air differs at a hundred feet high and fires start on the ground!

The furniture in the cab consisted of one tall chair, a small electric space heater, kerosene heaters were used in the early days, a broom, a telephone which must be kept sitting on the floor so the wind wouldn't knock it off and a C.B. radio sitting on a small iron box in which it can be locked up at night. C.B. radios were issued in 1951. Phones were party lines and when one number was called, all the phones on the line rang. Some people were habitual evesdroppers, which could be an advantage. If someone called up and excitedly reported a fire, and the towerman wasn't able to get the details, someone else listening on the line, was always sure to have heard.

Since communication was so important, and early phone lines were strung haphazardly. After a storm the towerman was to walk the telephone line, carrying an axe to get the limbs off the line, or prop it up; cut away the briars, and patch it up. It was great relief when we got new telephone lines strung to the tower."

She further explains one gets into the cab by climbing sixteen steps to the first landing, turn right, fifteen steps to the next, turn right, twelve steps to the next and so on until one has climbed one hundred and twenty three steps. It was also necessary to carry a container of water, lunch and the weather equipment.

There was no housing at the base of the tower. None of the state towermen were housed on the grounds. Bathroom facilities consisted of a two seater under a tree. The grounds around the tower were about a quarter acre of grass which the towerman kept mowed and clean.

Unknown Indiana towerman with the tools of his trade in the cab of his firetower. The Osborne Fire Finder, lower right, was a map with a siting mechanism which was used to determine the azmuth to a smoke. The fire's location could be pinned down when triangulated with other towers.

Towermen often had to watch a smoke for 20 minutes or more to determine if the fire was someone burning off a garden and it would gradually subside, or if it were out of control and needed suppressing. Once he decided it was out of control and called a crew together, it often took 30-60 minutes before anyone arrived at the fire. This gave the fire a significant head start. Indiana foresters believed if a permit law was in effect, the towerman would know immediately which fires were managed and what to expect in watching their smoke columns. A law requiring anyone starting a fire to first acquire a permit went into effect on December 9, 1935.

Since eyesight was so critical for the job of towerman, an early fire manual declared "it is customary to require applicants for this work to demonstrate their seeing ability." A vision test was devised by the State of Indiana. It was to be given between 9 am and 3 pm. The applicant was taken outdoors and was positioned several hundred feet from a black board. The board was changed so that it showed a white spot, 3/8 inch in diameter, at either end, or no spot. The applicant was required to recognize, at a minimum of 450 feet distance, which end of the board had the spot, or if no spot was shown. Exceptional applicants could make this distinction at over 550 feet.

Aerial Detection and the Demise of Towers

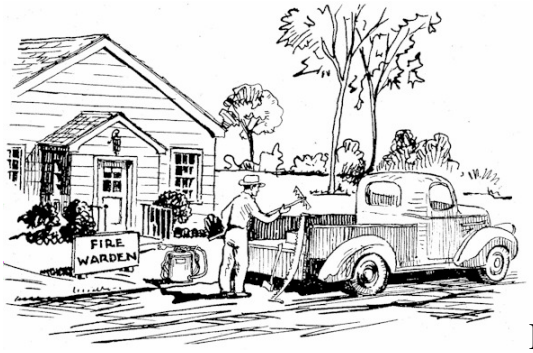
In the early years the lookout towers and planes worked cooperatively. The towermen would run up the American flag at their tower site to indicate they were on duty. At first, communication was only one-way; if the planes needed to communicate with the towers they would fly over them and drop a note and the towerman would hurry down the tower to read the note and relay the message.

The Civil Air Patrol was used for several years, especially during the WWII era. Though planes could spot the fires, they had no communication with the ground, so were required to drop written messages in order to convey fire locations. In areas where there

were no towers located, the messages were usually dropped at police stations after the plane buzzed the offices to get attention.

Gradually, however, the use of planes for aerial detection was perfected. By 1972, IDNR was manning only 10 of their towers. An agreement with the U.S. Forest Service for aerial detection covered most of the central and southern parts of the state and by the early 1980's IDNR had contracts to provide air surveillance during high fire danger.

By the turn of the century however, air patrols were again less common, and in the 21st century fires are generally detected and reported by area residents.



Fire Wardens Appointed

In August, 1935, the state commissioner's approved Clarke-McNeary Budget included an item for paid suppression. This created the Office of Forest Fire Warden. The three district foresters were given power to appoint an initial 65 fire wardens. Their qualifications were that they must be "of high type, well-thought-of citizens, interested in Conservation, and have a car and a telephone." Each of these men was to organize and supervise a crew of ten fire guards.

The forest fire wardens were initially paid twenty-five cents an hour and five cents mileage for the use of their cars. Their crew of fire guards were paid fifteen cents an hour while fighting fire. Even in those days, these were paltry wages and anyone who applied was more interested in conservation than the money the job offered. The pay merely helped compensate them and make them feel their time and effort was appreciated. There was some concern that if the pay was increased, it might become profitable for people to set fire intentionally in order to fight them. By the late 1940's, the State had assumed liability for injury to anyone fighting fire.

The most important job the fire warden had, other than the actual extinguishing of the fire, was completing a fire report for each fire in his area. Indiana's fire reports were identical to those used by the United States Forest Service. In 1936, as a result of the fire reports completed, the state had its first complete figures on causes of fires, number of fires, and acres burned.

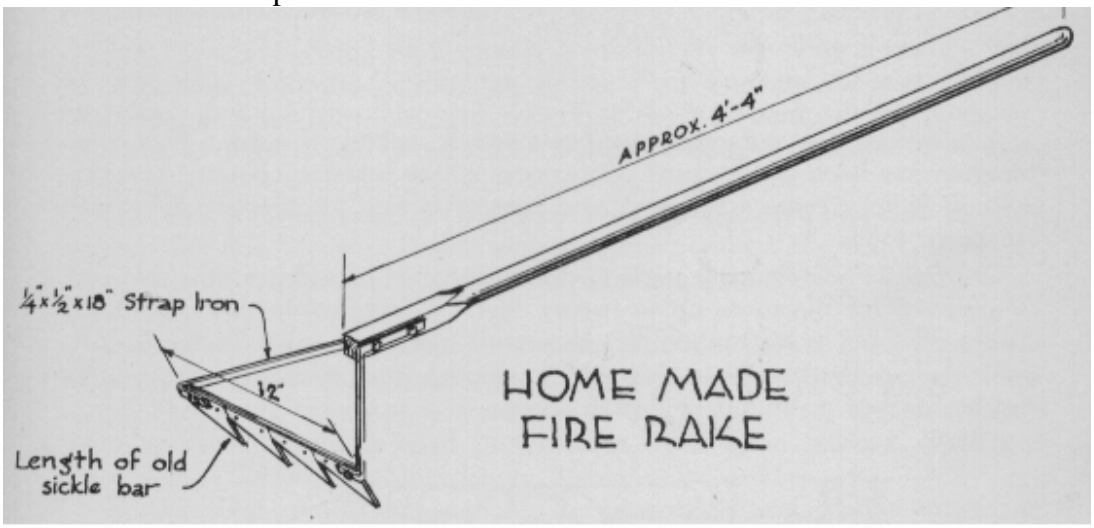
These figures were used in a 10-day educational program held the next year for all fire wardens and towermen. When coupled with the evolving fire permit laws, the fire wardens were then expected to help educate their neighbors and anyone indicating they intended to burn. If a farmer was going to burn a field, the wardens could explain how he should plow a safety strip along the edge and back fire from the strip.

As the wardens organized their fire crews across the state, each crew was equipped with ten fire rakes, one axe, one first aid kit, one crosscut saw, one five or seven gallon Indian back pack pump, one five gallon Indian supply tank, and in some cases, four or five beaters where grass fires are prevalent.

Both the Indiana Department of Conservation and the US Forest Service employed fire wardens. Here a supervisor is inspecting one of the U.S. Forest Service fire warden's caches of tools – traditionally kept in bright red buildings next to the county road.

The State also immediately set up training for their newly appointed wardens. The first 2-day fire school was held at the headquarters of the southeastern district in October 1935. One day was devoted entirely to the methods of making reports, expense vouchers, payrolls, and the proper procedure of law enforcement. The second day was devoted to methods of suppressing fires by the use of blackboard illustrations and finally, the fighting of a mock fire in the field with constructive criticisms given by the district foresters. The school was such a success that it was held annually for several years, usually at Spring Mill State Park.

By the following year, a Forest Fire Manual was printed and distributed to the fire wardens. This manual contained various information including diagrams on fighting fire under different circumstances, fire statistics, and information on fire tools, including how to make tools from scraps:

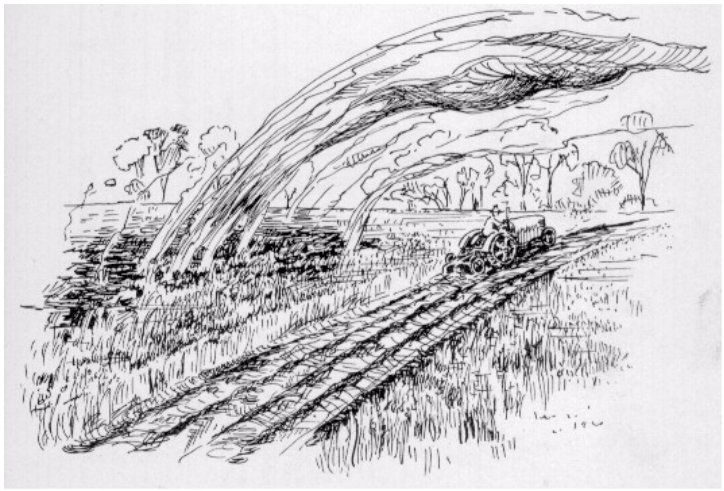


Forest Fire Fighters Service

The Forest Fire Fighters Service (FFFS) was one of five basic Civilian Defense Groups established by the Office of Civilian Defense in Washington D.C. during World War II. T.E. Shaw, Acting State Forester, was appointed the State Coordinator for Indiana in 1942. Coordinated by the Division of Forestry, members of the FFFS included high school students and civic organizations.

These volunteers were trained in fighting wildfire, but their training also included conservation, wildlife preservation and general forestry. A volunteer is required to complete a minimum of twelve hours training and then be approved by the State Coordinator and State Civilian Defense Director. The Civil Air Patrol also contributed many hours of service during the war years by spotting fires in areas where no detection system was present and dropping fire prevention messages at high schools to be distributed to the students.

Illustrations from the FFFS field manual for 1943 show how to fight a field fire. The instructions are to start at the head of the fire, knock the high blaze down with the back pack pump spray, extinguish the fire with flappers and wet burlap sacks, then use a shovel to control any fire remaining.

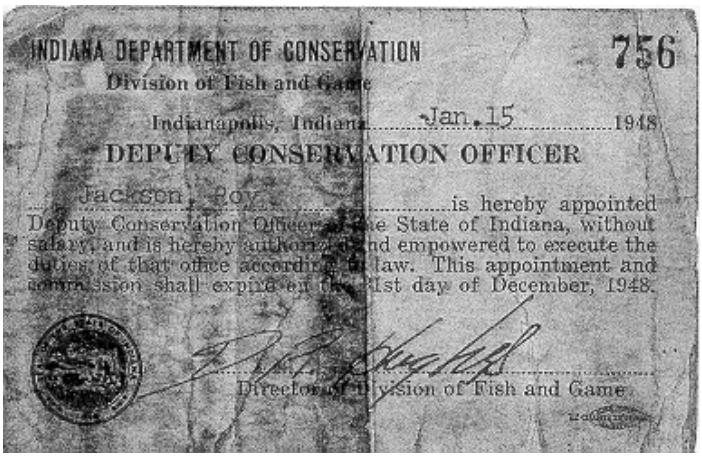


The manual suggests if a plow can be used, the furrows should be run as close to the fire as possible. As many furrows as possible should be thrown up before the fire reaches the line. If possible the area between the furrows and fire should be burned out.

Annually manuals were printed and distributed to the FFFS volunteers. The publication was generally a joint publication done by the forestry personnel of Purdue

University and the Indiana Conservation Department. From a 1947 FFFS manual some of the points stressed included:

- Burning pastures will kill 25% of a blue grass field but fire does not kill broom sedge. Plow under your broom sedge and lime the soil to improve pasture rather than burning it.
- Plowing under cornstalks or stubble improves soil, but burning destroys the humus without reducing the number of insects.
- A fire started "by accident" does just as much damage as a fire started intentionally.



INDIANA DEPARTMENT OF CONSERVATION 756
Division of Fish and Game
Indianapolis, Indiana Jan. 15 1948
DEPUTY CONSERVATION OFFICER
Jackson, Roy is hereby appointed Deputy Conservation Officer of the State of Indiana, without salary, and is hereby authorized and empowered to execute the duties of that office according to law. This appointment and commission shall expire on the 31st day of December, 1948.
Director of Division of Fish and Game

*This card was issued to Roy Jackson of Morgan County in 1948. He carried it in his wallet until he died in **1993**. Deputy Conservation Officers had many of the same duties as Fire Wardens.*

Here an instructor demonstrates the quality of boards sawn from a fire-damaged red oak at a mill near Tell City, Indiana.

Boys were shown how to use equipment such as this Indian backpack pump, useful for extinguishing fires in burning snags.

In 1959, the Division spent 8,654 hours in educating their fire fighters and the public. Training was conducted for 2,400 boys in the FFFS. Cornell Kemper, Fire Warden for Dubois County from 1947-1953, remembers high school boys who fought fire were not paid, they were just happy to get out of school. He said they got little help from organized fire departments since at that time these were generally in cities and towns and their firemen were not trained to fight forest fires.

Here boys are being shown how to use a Kortick Tool (now called a McCloud) to clear line, and a "swatter" to smother fires burning in grass.

By the 1970's, the Indiana code further protected members of the FFFS by giving them legal protection when fighting fire on private property and providing for medical expenses incurred if the fire fighter was injured. The governor was also given power in that time for declaring a fire hazard emergency and enacting certain laws to protect the state in times of extreme drought.

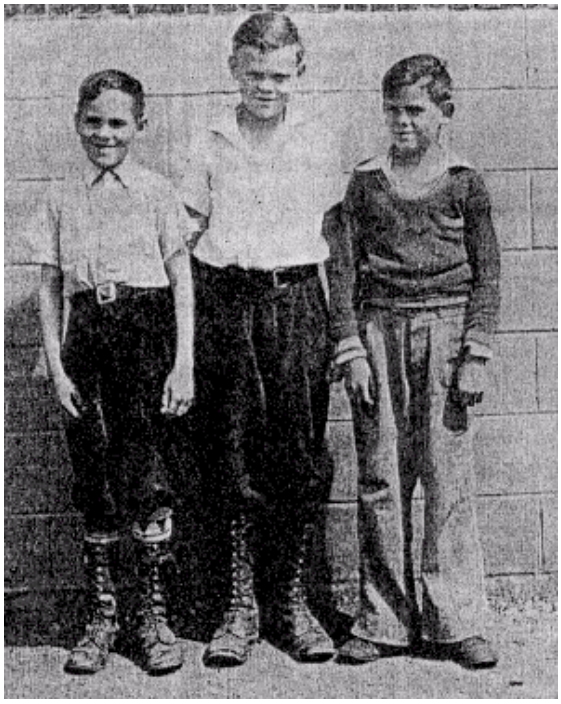
The system of fire wardens worked well for the state through the 1950's. It was gradually disbanded in the early 1960's as rural fire departments organized to take a larger role.

Forest Protection Associations

As the Departments' educational work built momentum, fire programs became a popular draw for local groups, especially in the southern part of the state. The programs advertised "moving pictures" and were well illustrated with pictures of fire damage and fish and game conservation projects.

Resident landowners in many areas of the state organized local forest protective associations. The first such protective association was organized in Brown County in 1930. Resident landowners volunteered their services in fighting forest fires on all land within the organization's area. Non-resident landowners also participated by paying a fee to the organization of $1/year for protection of 100 acres or less and one cent/year for every acre in excess of the first 100 acres. The monies were used to buy fire rakes, brush hooks and axes, and other fire tools that were then cached for use only in fire fighting. Many of the associations were centered on the local fire tower. In Jackson County, the association actually collected monies to purchase a tower site and construct a fire tower.

An example of the cooperation and interest in the southern part of the state is shown in an effort in 1930. The extension forester for Brown County wrote three letters about forest fires. The county agent supplied the names and addresses of all the farmers in the county. The State Forester's office mimeographed the letters and mailed them. As a result of this cooperative effort, in the spring of 1931, there were no forest fires in the Brown County area.



It was not only adults who became interested in fire prevention, children also organized to help prevent wild fires. In Jennings County, 1,658 children enrolled in Junior Guardian of the Forest Clubs, pledging to study forestry and prevent forest fires. Many of the children participated in a conservation essay contest. The Civilian Conservation Corp Camp at North Vernon sponsored the Junior Guardians.

The three brothers shown here, Gene, Richard, and Donald Eden were in a Forest Guardians Club. When a fire spread onto their farm in Jennings County from an adjacent farm they notified the CCC camp, and helped fight the fire to bring it under control.

In 1934, the district foresters and fire wardens made a concerted effort to contact every farmer and landowner in the hazard areas of the state acquainting them with the problems of forest fires and soliciting their cooperation. After four years, debris burning in the areas canvassed had reduced by 85 percent. Since there was no corresponding drop

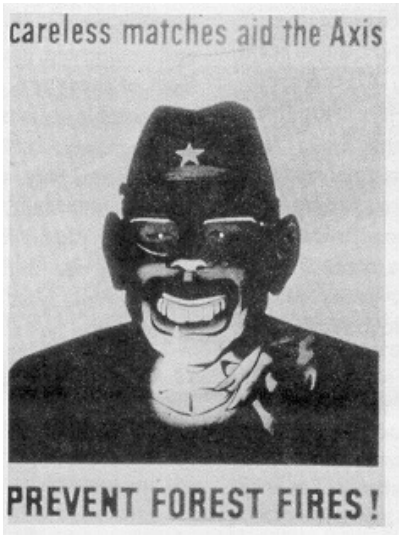
in fires along highways caused by cigarette smokers, in 1939 the Department began experimental work on the construction of fire warning signs along highways.

The 1938 Annual Report of the Division of Forestry listed three categories of challenges for forestry in Indiana:

- Prevention of fires in southern Indiana
- Educational programs in northern Indiana designed to reduce the grazing of woodlots
- Reforestation of eroded, abandoned, and other useless farmland.

The recognition of fire prevention as the first priority of concern was an important step toward focusing resources on the effort.

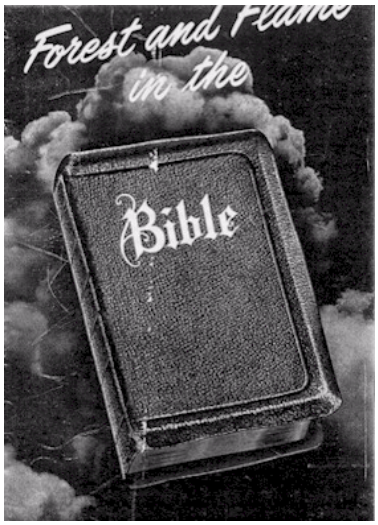
The focus on fire prevention escalated during World War II when so many able-bodied men had left for the military and the ranks of fire fighters in Indiana, as well as nationally were thin. As fire protection capabilities shrunk, the demand for wood escalated as the war industry consumed huge quantities of lumber for ships, packing crates, and the building of bases and military facilities. In 1942, Congress approved legislation that made the destruction of our forests comparable to sabotaging the war effort. The Wartime Advertising Council immediately began an aggressive campaign to reduce the numbers of forest fires. An example of one of their first posters is shown here.



When a careless smoker flips a match
Into the woods, or a broomsedge patch,
When brush is burned, on a windy day
It's bound to spread and get away,
And burn his neighbor's fence and trees.
Use your head, will you please?"

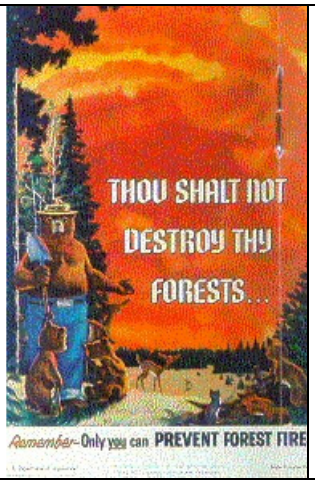
From a 1943 Handbook for Forest Fire Fighters

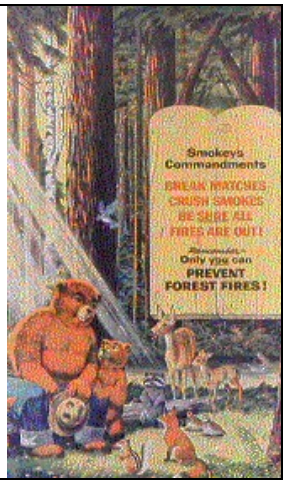
Some of the early fire prevention efforts are extraordinary by today's standards. An early US Forest Service publication that was distributed in this area is a compilation of references from the Bible. Filled with Biblical quotes and fire and brimstone messages, this publication was printed in 1953.



Smokey Bear came into use as an icon for fire prevention in 1945 and his popularity quickly grew. Several early Smokey posters featured Smokey Bear praying. For many Indiana audiences, a strong religious message was an effective medium for fire prevention.

Bev- do you have an original slide for this one?





Prevention continues today as a major program coordinated by Fire Headquarters staff. Many programs are geared for children in the school system and during the summers at various state properties. Wild fire prevention has long been a theme as well at the state fair where Smokey annually spends a couple weeks in August greeting people and explaining his message.

In addition to Smokey, fire prevention is an on-going program in working with rural fire departments to educate them, and in some cases, local planners and zoning commissions on how to work with land owners to integrate fire safe building and landscaping techniques in their communities.

Equipping the Fire Organization

In the early days of fighting Indiana's wildfires, men battled fire with damp feed sacks and any tool they had at hand. As actual fire tools were developed, the cache of a trained fire fighter included the following tools:

	The broom rake was the most common fire tool. The rake quickly clears a path of leaves and is an efficient tool in areas where there is little brush and the primary material burning is leaves.		The shovel and axe are used in traditional ways. The axe is used to cut limbs and clear logs and other debris in the way of fire line construction. The shovel is used to dig out burning roots, logs, and to bury smoldering fires.

	Backpack pumps held 5 gallons of water and use an adjustable pump nozzle to spray a stream of water fairly high into trees to put out smoldering snags.		This drip torch, filled with a mixture of diesel and gasoline allows fire fighters to drip a line of fire for backfiring along an established control line.
	This tool is a Pulaski, named for a well-known Forest Ranger who heroically saved his crew in a wildfire. The tool combines an axe with a sharpened hoe and has many uses in fire line construction.		Called a flapper, a swatter or a beater, this tool's long handle allows firefighters to stand well back from hot grass fires while literally swatting out the flames with the thick rubber flap. Where groundcover is short, the flapper can be dragged along the fire edge to smother the fire.
	Council Tools are sharp toothed and cut through sod and small roots to clear a fire line.		This McLeod tool is not as common in Indiana but can be used as a rake or as a hoe.

Despite advances in technology, hand tools used in fire fighting have changed little over the years. IDNR still equips fire fighters with tools almost identical to those issued to fire fighters a century ago. Today IDNR supplies cooperating fire departments with a cache of wildfire handtools worth approximately $800 including 6 council rakes, 2 collapsible broom rakes, 4 fire swatters, 2 fire shovels, and 2 backpack pumps.

By the late 1920's, as the fire organization became more sophisticated, the State began to experiment with various types of fire fighting truck units

In 1939 the Division developed a compact fire fighting truck unit that allowed the truck to be dismantled and used for other purposes during periods of low fire danger. The units contained a 250-gallon tank connected to a high pressure, low volume pump driven by the truck motor and some 300 feet of discharge hose. In the 1950's, a new fleet of tank trucks were touted as "putting an end to farmer's despair over fire throughout rural America." These trucks enable rural fire departments to carry 500 to 700 gallons of water down narrow roads or across fields. Produce trucks carrying milk cans filled with water are also used to transport water to the fires (right) and supply pumpers with enough water to fight a blaze.

After the CCC program began to scale back and later dissolved, their fire tools and equipment were surplussed and made available to the states. The equipment included hand tools, trucks, and tractors. Having depended on the CCC camps and their crews for fire protection, receiving the equipment was a tremendous help to the Department as it struggled to assume the additional fire suppression responsibilities.

Keeping equipment up to date and distributed statewide to fire fighting organizations is an ongoing process. The trucks below show the evolution of early Army surplus vehicles to today's fire fleet.

Roy White, Quartermaster for the Indiana Department of Conservation in 1963, in a jeep received from the Federal Excess Personnel Property Program (FEPP) and outfitted for firefighting.

This 1954 jeep (above) was the first wildland fire vehicle acquired through FEPP. The Willy's jeep was a ¼ ton Model M38A1, equipped with an 80 gallon tank, pump, hose reel and hand tools. The State's quartermaster officer made it a priority to go to any Army equipment surplus sale in Indiana or Ohio.

At little or no cost, the State was able to procure tractors and graders for fire line construction and maintenance for many of the state parks and fish and game areas. By 1957, the fire organization had one air patrol plane.

In 1958 the fire protection program received permission to get property from the disposal program of the General Services Administration (GSA) facility in Chicago, IL. Through this effort the Division of Forestry received pickups, stake and dump trucks, tractor-trailers, jeeps, bulldozers, and fire trucks.

FEPP is still active, providing fire departments access to excess government equipment including trucks, generators, and other large equipment. Surplus federal equipment is assigned to those rural fire departments who have cooperative agreements with IDNR. The title of the equipment remains with GSA.

This 1964 IHC truck with slip-on pumper unit, was the first vehicle bought with Indiana money specifically for fire fighting. In 1965, the Department had 39 fire vehicles equipped with water tanks, and an additional 8 equipped with fire hand tools.

Today's Ford 450 is the first fully equipped state purchased wildland fire engine, Type 6X.

By the late 1930's, Indiana realized that efficient fire suppression necessitates the use of special heavy equipment. Indiana foresters were convinced that the high dollar value of their forests, and its value as wildlife habitat, could easily justify the cost of adding heavy equipment to their fire suppression organization. However, the money to fund heavy equipment was somewhat slow in coming. The first such equipment purchased was a tilt-bed 2.5 ton truck with a crawler tractor in the late 1960's.

Today the Fire Headquarters staff is responsible for the maintenance of the entire Division of Forestry's fleet of vehicles. Some heavy equipment also is staged at the site with operators and is available to assist with heavy equipment work on state properties.

The staff also administers chainsaw training and maintains some other equipment such as saws.

Communications Evolve

The U.S. Forest Service made headlines in April 1936 when they announced they would be putting in a telephone line from Bedford to Tell City, with branch lines to all fire towers, camps and ranger stations. Forest Service officials touted the new communication system "a great service in fire control."

April 27, 1944, Ed Lee, as assistant supervisor for the Hoosier National Forest announced "two-way radios had been installed in four ranger towers in southern Indiana" and that four cars with radios would be used for fire fighting and fire prevention. By June, every Forest Service fire tower had radios and two new fire trucks with radios had been procured. The state towers in the area were slower to get radios, but by 1957 the Division's Annual Report boasted that the state fire organization had 40 FM 2-way radios for use throughout the state.

In the late 1960's, G.T. Donceel remembers his office had only one phone. It was his good fortune to have the phone located on his desk. When anyone needed to use the phone, they would sit on the corner of his desk. Donceel laughs that eves-dropping on conversations kept him up on everything that was going on.

Cornell Kemper also remembers the problems with communications during his tenure as a fire warden. By this time, the fire towers had telephones but a condition of appointment for fire wardens was that they also have a telephone. Without radios in the field, Kemper recalls communication was strictly word of mouth or you drove to a local house and asked to use their phone.

Clarrisse Carroll notes that part of her job as a towerman was to keep informed regarding which homes in her area had telephones and what their phone numbers were so she could call them to check out smokes near their homes.

National Role and Incident Command

Indiana began to participate in mobilization of resources to support national wildland fire suppression efforts in the early 1970's.

The first out of state assignment for Indiana resources was in September 1976 when a 20-person crew was sent to Minnesota. Since that time Indiana has sent crews, single resource overhead, engines, dispatchers, prevention specialists, and technical experts to support all of the states shown here in red.

Though IDNR, the Hoosier National Forest, and the National Park Service have always worked cooperatively on fire issues, as the role of the Incident Command System has increased, this partnership has strengthened. The Incident Command System, patterned after the fire organization used on large wildland fires, is now used on other large incidents such as floods, tornadoes, and earthquakes. It was also used to support New York City after the September 11, 2001 terrorist attack. Hoosiers have been dispatched to support incidents from fire to floods, ice storms, hurricanes, tornadoes, and terrorist attacks.

Vision for the Fire Organization

Indiana has a strong fire service that protects all values from wildfire and, where appropriate, utilizes prescribed fire as a management tool, providing both protection and management that is critical in maintaining a healthy, sustainable ecosystem.

Evolving Role for the 21st Century

The mission of the IDNR Fire Management Program is to provide organizational, operational, and technical support regarding wildland and prescribed fire management. This support extends to state lands and may be extended to all lands outside incorporated cities and towns.

Prescribed fire, unheard of only a few decades ago, is now a management tool used frequently in the state to reduce fuel buildups, improve wildlife habitat, or encourage fire-dependent species.

IDNR is on the leading edge of fire education curriculums. Workshops are offered periodically for teachers and other educators to receive hands-on training and materials on fire's role in the environment. IDNR fire staff serves on several national committees to develop fire education and strategies.

The Volunteer Fire Assistance program continues to promote viable rural fire departments. This program administers federal grants and can be used to purchase fire materials, training equipment and supplies, water handling and communications equipment, dry hydrants, new technology, and safety gear. IDNR Fire Management people also assist in training rural and volunteer fire departments throughout the state.

A new Indiana Interagency Coordination Center (IICC) was constructed in 2002 in Tell City, Indiana to dispatch fire and emergency crews. The IDNR, US Forest Service and US Park Service operate the center cooperatively. A helicopter now works out of this center on a seasonal basis to work fires in the southern part of the state.

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