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**WILDLAND FIRE MANAGEMENT PLAN**  
**JORDAN RIVER NATIONAL FISH HATCHERY**  
**GREAT LAKES-BIG RIVERS REGION**



2002



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## INTRODUCTION

This plan establishes a Fire Management Plan (FMP) for Jordan River National Fish Hatchery. As this plan is not generating new Federal actions that would affect the environment, it is deemed a categorical exclusion and requires no additional environmental documentation under the National Environmental Policy Act (NEPA). An informal Section 7 consultation will be conducted to ensure no adverse effects on Federally threatened or endangered (T&E) species on the hatchery. Based on past actions and associated reviews, sites subject to the National Historic Preservation Act (NHPA) are not likely present.

This plan is written as an operational guide for managing the hatchery's wildland fire program. It defines levels of protection needed to ensure safety, protect facilities and resources, given current understanding of the complex relationships in natural ecosystems. It is written to comply with a Service-wide requirement that units with burnable vegetation develop a fire management plan (620 DM 1).

This FMP outlines a program of full suppression of all wildland fires. There will be no prescribed fires or pile burning on the hatchery. Lands comprising the hatchery were originally acquired to protect the watersheds on the two principal springs. This plan will provide guidance to wildland suppression agencies to protect hatchery water supplies while reducing the potential for fire related damage to the supporting watershed.

The hatchery has no personnel qualified for wildland fire suppression duties. Generally, the spring wildland fire season coincides with the most active part of the hatchery operational year. Suppression forces from the Michigan Department of Natural Resources (MIDNR) are responsible for suppression.

Initial attack action on wildland fires may come from the Alba Volunteer Fire Department as they are the closest suppression organization. Their role is most likely to be protection of structures while MIDNR is en route. Structural suppression would be by the Alba department.

## COMPLIANCE WITH USFWS POLICY

The hatchery property was acquired from the State of Michigan in 1960 for \$1.00 under a public use deed. Federal establishment of the hatchery occurred in 1963 under the 1934 Coordination Act (48 Statute 401). Numerous changes and improvements to the facility have occurred since establishment.

A station development plan was prepared in the late 1980's. The objectives listed in that plan include:

1. Increase fitness of stocked fish.
2. Optimize hatchery capability.
3. Improve stocking procedures.
4. Monitor contaminants.

This FMP supports objectives 1 and 2 by protecting the watershed values critical to successful hatchery operation.

Authority and guidance for implementing this plan are found in:

- Protection Act of September 20, 1922 (42 Stat. 857; 16 U.S.C.594): authorizes the Secretary of the Interior to protect from fire, lands under the jurisdiction of the Department directly or in cooperation with other Federal agencies, states, or owners of timber.
- Economy Act of June 30, 1932: authorizes contracts for services with other Federal agencies.
- Reciprocal Fire Protection Act of May 27, 1955 (69 Stat. 66, 67; 42 U.S.C. 1856, 1856a and b): authorizes reciprocal fire protection agreements with any fire organization for mutual aid with or without reimbursement and allows for emergency assistance in the vicinity of agency lands in suppressing fires when no agreement exists.
- Disaster Relief Act of May 22, 1974 (88 Stat. 143; 42 U.S.C. 5121): authorizes Federal agencies to assist state and local governments during emergency or major disaster by direction of the President.
- Federal Fire Prevention and Control Act of October 29, 1974 (88 Stat. 1535; 15 U.S.C.2201): provides for reimbursement to state or local fire services for costs of firefighting on federal property.
- Wildfire Suppression Assistance Act of 1989. (P..L. 100-428, as amended by P..L 101- 11, April 7, 1989).
- Departmental Manual (Interior), Part 620 DM, Chapter 1, Wildland Fire Management: General Policy and Procedures (April 10, 1998): defines Department of Interior fire management policies.
- Service Manual, Part 621, Fire Management (February 7, 2000): defines U.S. Fish and Wildlife Service fire management policies.
- National Environmental Policy Act of 1969: regulations implementing the National Environmental Policy Act (NEPA) encourages the combination of environmental comments with other agency documents to reduce duplication and paperwork (40 CAR 1500.4(o) and 1506.4).

- Clean Air Act (42 United State Code (USC) 7401 et seq.): requires states to attain and maintain the national ambient air quality standards adopted to protect health and welfare. This encourages states to implement smoke management programs to mitigate the public health and welfare impacts of Wildland and prescribed fires managed for resource benefit.
- Endangered Species Act of 1973.
- U.S. Fish & Wildlife Service Fire Management Handbook.

This plan meets NEPA /NHPA requirements and will be implemented in coordination with the Endangered Species Act of 1973, as amended, under the section 7 programmatic review provisions. Appropriate actions will be taken to identify and protect from adverse wildland fire effects, any rare, threatened, or endangered species on the hatchery.

The authority for funding (normal fire year programming) and all emergency fire accounts is found in the following authorities:

Section 102 of the General Provisions of the Department of Interior's annual Appropriations Bill provides the authority under which appropriated monies can be expended or transferred to fund expenditures arising from the emergency prevention and suppression of wildland fire.

P.L. 101-121, Department of the Interior and Related Agencies Appropriation Act of 1990, established the funding mechanism for normal year expenditures of funds for fire management purposes.

31 US Code 665(E)(1)(B) provides the authority to exceed appropriations due to wildland fire management activities involving the safety of human life and protection of property.

Authorities for procurement and administrative activities necessary to support wildland fire suppression missions are contained in the Interagency Incident Business Management Handbook.

## **FIRE MANAGEMENT OBJECTIVES**

The overall objectives for fire management are to promote a program to ensure firefighter and public safety, aimed at reducing human-caused fires and to ensure appropriate suppression response capability to meet expected wildland fire complexity. Specific fire management objectives are:

- §** Promote a fire management program and control all wildland fires at less than 10 acres.
- §** Protect life, property, and resources from wildland fires at costs commensurate with resource values at risk, keeping losses to improvements and other property to less than \$10,000 in any calendar year.
- §** Use appropriate suppression tactics and strategies that minimize long-term impacts of suppression actions, particularly related to water quality to avoid a reduction, caused by wildland fire, in hatchery production in any one year period.

### DESCRIPTION OF HATCHERY

The hatchery comprises approximately 116 acres in Antrim County, Michigan (Figure 1). It is located three miles north of Alba, MI, about 15 miles east of Gaylord, MI and 28 miles south of Petoskey, MI.



Approximately 3.9 million lake trout, including 3 million yearlings and .9 million fall fingerlings, are planted in Lakes Superior, Michigan and Huron each year from this hatchery.

Figure 1 - Vicinity Map

A public use deed approved by the State of Michigan, April 14, 1960, established Federal ownership with the condition that land be used for fish culture purposes only. The hatchery was established in 1963 under the authority of the March, 1934 Coordination Act. Construction or renovation of hatchery facilities has been ongoing since establishment.

### **CULTURAL RESOURCES**

At the time of property acquisition, there were remains of old stone foundations. The site has not been formally surveyed for archeological or architectural resources. Therefore, there are no recorded sites.

As the area had been logged and then farmed prior to state acquisition in 1936 it is likely that any historic sites have been significantly disturbed. No communication with Native American groups regarding Native American Grave Protection and Repatriation Act (NAGPRA) issues has occurred.

### **FISH AND WILDLIFE**

Due to the small size of the hatchery and location of residences on the site, no wildlife harvest is allowed. There are no known threatened or endangered species found on the hatchery. Although no sightings are recorded on the hatchery, gray wolf sightings are reported in the northern Lower Peninsula. Appendix F, Table 6, contains Michigan state listed threatened or endangered wildlife species recorded in Antrim County that could occur on, or be transients passing through, the hatchery and potentially be affected by fire.

### **VEGETATION**

The area in which the hatchery is located is covered with second growth timber resulting from harvesting in the 1930's and 40's. About 73 acres of the hatchery property are forested. Current forest vegetation can generally be described as northern hardwoods (Mladenoff et al, 1993). Individual species present include: sugar maple (*Acer saccharum*), red maple (*Acer rubrum*), trembling aspen (*Populus tremuloides*), big-tooth aspen (*Populus grandidentata*), red oak (*Quercus rubra*), balsam fir (*Abies balsamea*), and red pine (*Pinus resinosa*). In the marsh areas of approximately 23 acres, alder (*Alnus spp.*) and various sedges (*Carex spp.*), rushes (*Juncus spp.*) and grasses are found.

Both the federally listed Michigan monkey-flower and Pitcher's Thistle are found at Sleeping Bear Dunes National Lakeshore (National Park Service, 2002), approximately 60 miles to the southwest, and have the potential to occur on the hatchery. Appendix F contains a table of plant species listed as threatened or endangered by the State of Michigan and reported in Antrim County. Some of the plants listed would likely benefit from fire application properly timed, while others would be further threatened. As prescribed fire or fire use is not planned for implementation at Jordan River, the potential for fire affecting plant species would come from wildland fire..

The remaining area (approximately 20 acres) is established as mowed lawn, buildings, paved areas or concrete raceways.

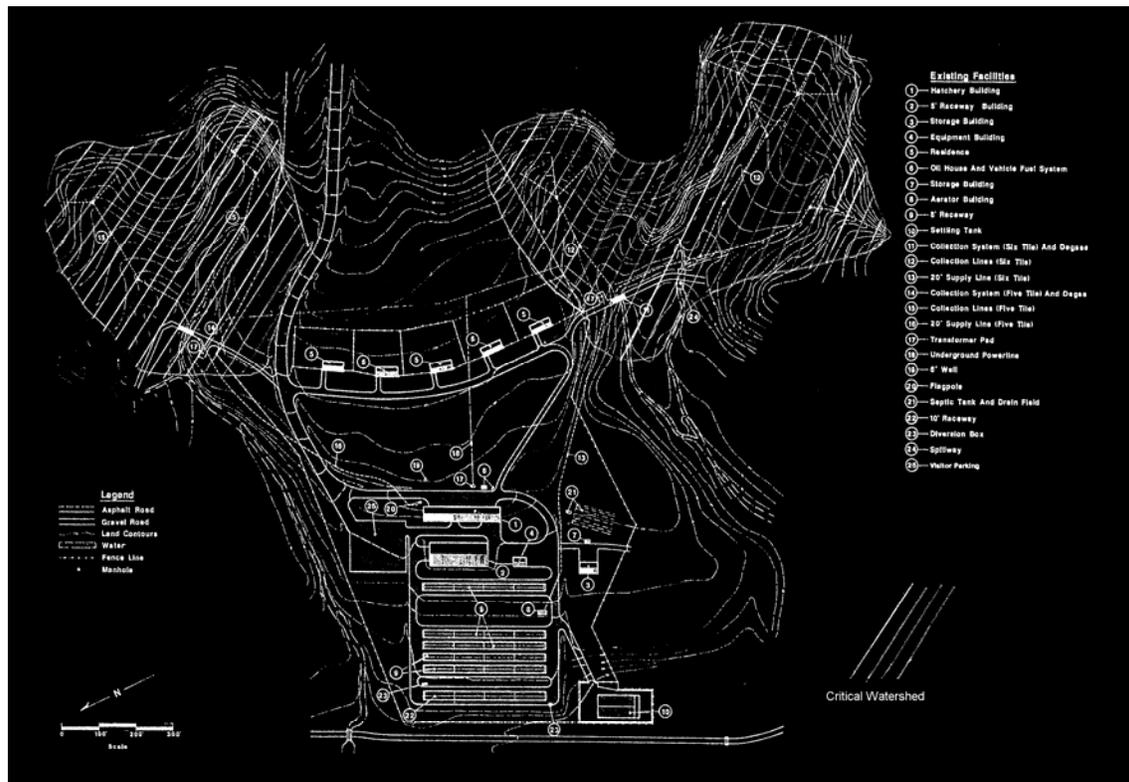
### **PHYSICAL RESOURCES**

**Geology/Soils** - Geologically the area is typical of the glaciated areas found near Lake Michigan. Soils are generally a silt loam, and erosive if exposed. The soil in the marshy areas have a significant organic content with an underlying clay horizon that tends to prevent drainage except over the ground surface.

**Topography** - The topography of the hatchery property (Figure 2) is characterized by gently to steeply sloped hillsides and natural drainages that lead the marsh areas then to the Jordan

River. The steepest slopes are found near the east boundary of the hatchery and adjacent to the water collection areas. In the area of the raceways, the ground levels out with the facilities 20 feet or more above the river.

Hydrology - Two areas have structures designed for water collection. Five Tile (north) and Six Tile (south) collection sites use networks of perforated tile to collect water which is then piped into the hatchery proper. Hatchery effluent is run through a settling tank and discharged to the



Jordan River. Water quality is not expected to be affected by operations under this plan.

Air Quality - The area is rated as Class II air quality. This means that actions under the plan will be designed to prevent significant deterioration in air quality. Operations conducted under this plan are not expected to affect air quality in the area.

Figure 2 - Topography and Critical Watershed

**STRUCTURES AND FACILITIES**

There are five dwellings on the hatchery that are adjacent to wildland fuels. Other buildings on the hatchery are located well within the mowed and paved area and are unlikely to be affected by wildland fire. Lands immediately adjoining the hatchery are part of the Mackinaw State Forest and protected by MIDNR. Hatchery buildings are generally in the open and easily defensible.

Two buried items considered facilities are of concern during wildland suppression operations. There is underground electric service to the pumping stations at both water collection sites. Damage to this service could have serious consequences, both to firefighters and the well being of the hatchery's fish stocks. Water pipelines also run from each water collection point to the hatchery building, disruption to this service would also have significant impacts on hatchery operations.

Table 1 lists the structures and facilities of concern on the hatchery.

Table 1 - Hatchery Structures/Facilities

Facility	Value
Hatchery/Office Building	2,716,000
Rearing Building	2,193,800
Storage Building	8,200
Storage Building	31,000
Storage Building	17,900
Aerator Building	14,100
Residence 2	355,000
Residence 3	355,000
Residence 4	355,000
Residence 5	355,000
Residence 6	355,000
Oil House	5,000
Electric Service to Springs	30,000
Water Supply Pipelines	658,500

<b>Facility</b>	<b>Value</b>
Total Value -Hatchery Structures	7,449,500

## WILDLAND FIRE MANAGEMENT SITUATION

### HISTORIC ROLE OF FIRE

There is no known fire history available for the hatchery. No unwanted wildland fires have been recorded since the start of operations in 1964. While it is likely that fire affected hatchery habitats in the past, generalizations based on knowledge of the silvicultural needs of the various forest tree species must be used (Gullion, 1984).

This area of Michigan was logged for pine in the early 1900's and then for hardwoods in the 1930's and 40's. It is likely that most of the hatchery area was originally covered by northern hardwoods forest.

### Pre-settlement fires

The natural fire interval is unknown. However, based on similar habitats in northern Michigan with some fire history available, the following assumptions may be made. On the sand plains east of the hatchery (towards Interstate highway 75) a fire return interval of 50-80 years in the widespread jack pine (*Pinus banksiana*) forests would be reasonable. In the Jordan River Valley, with northern hardwoods forest cover, the natural fire return interval could range from 200-400 or more years.

Based on the assumptions above, the fire regime in the valley may have been driven by lightning during drought periods. It is more likely that use of the river valley by Native Americans provided most ignitions, maintaining openings for wild fruits, driving game, and rudimentary agriculture. There is also a possibility that fires from the sand plains to the east may have burned into the hardwoods during the drought periods.

### Post-settlement Fire History

In the northern portions of the Lakes States fires, some extremely large, frequently followed logging and the start of agriculture. Examples include the Pestigo Fire in Wisconsin in October, 1871 burning an estimated 1.1 million acres and taking 1,300 lives. At the same time a fire burned in the "thumb" area of Michigan, between Saginaw Bay and Lake Huron, covering between 1.2 and 2 million acres and taking over 200 lives. The same area of the "thumb" burned again in 1881 covering 1 million acres and taking nearly 300 lives. Many other fires are mentioned in numerous diaries and journals kept by the early European settlers. Attempts at farming frequently followed logging and fires from land clearing and slash burning were common.

Michigan enacted a comprehensive Forest Fire law in 1903. In 1921 what is now the Department of Natural Resources was reorganized and modern fire prevention and suppression actions were established.

Northern Lower Michigan typically has a split fire season. The first part is in the spring from the time snow disappears until vegetation has begun its growth (greenup). This part of the fire season usually runs from mid-April until late May or early June. A fall season occasionally follows the growing season if conditions are dry enough. The first frost cures remaining fine fuels and this season generally lasts until snow cover is on the ground. Growing season statistics from East Jordan (Stan Moore, Michigan State University Extension, Personal Communication) indicate an average 113 day growing season.

Since the end of the logging era, most of the area in the hatchery watershed has been farmed so fires were quite uncommon. Because the hatchery, by its nature, lies mostly on low ground, fire occurrence is expected to be an extremely rare event. With hunting in the surrounding area allowed, fall ignitions would be expected to be human-caused, likely from warming fires or smoking material disposal. Spring fires would be extremely rare.

### **Prescribed fire history**

There has been no prescribed fire application on the hatchery since establishment.

### **RESPONSIBILITIES**

There is no fire management staff at Jordan River National Fish Hatchery. The Project Leader is responsible for planning and implementing the fire management program on the Hatchery. A Zone Fire Management Officer (FMO) located at Leopold Wetland Management District, Portage, WI is responsible for fire management program oversight.

Pre-suppression planning and work is accomplished with resources and guidance provided by the Zone FMO. Emergency fire management actions will be handled by MIDNR as they have responsibility for wildland fire suppression under state law. The Zone FMO will be immediately notified of all emergency actions.

### **Project Leader (PL)**

- Is responsible for implementation of all fire management activities within the unit and will ensure compliance with Department and Service policies.
- Selects the appropriate management responses to wildland fire.
- Identifies preparedness projects and biological objectives to Fire Management Officer (FMO) and notifies FMO of project constraints.
- Acts as the primary Hatchery Resource Management Specialist during fire management planning and operations.

### **Zone Fire Management Officer (FMO)**

- Responsible for all fire-related planning and implementation for the Hatchery. Integrates biological objectives into all fire management planning and implementation.
- Solicits program input from the PL.
- Supervises preparedness project planning.
- Coordinates with cooperators to ensure adequate resources are available for fire operational needs.
- Is responsible for implementation of this Plan.
- Is responsible for preparation of fire reports following the suppression of wildland fires and for preparedness projects requiring such..
- Prepares an annual report detailing fire occurrences and preparedness activities undertaken in each calendar year. This report will serve as a past year's fire management activities review, as well as provide documentation for development of a comprehensive fire history record for the Hatchery.
- Submits budget requests and monitors FIREBASE funds.

- Maintains records for all personnel involved in suppression and preparedness activities, detailing the individual's qualifications and certifications for such activities.
- Updates all fire qualifications for entry into the Fire Management Information System.
- Nominates personnel to receive fire-related training, as appropriate.

**Incident Commander**

- Incident Commanders (of any level) use strategies and tactics as directed by the Project Leader and a Wildland Fire Situation Analysis (WFSA), where applicable, to implement selected objectives on a particular incident. A specific Limited Delegation of Authority (Appendix C) will be provided to each Incident Commander prior to assuming responsibility for an incident. Major duties of the Incident Commander are given in the National Wildfire Coordinating Group (NWCG) Fireline Handbook, including:
  - Brief subordinates, direct their actions, and provide work tools.
  - Ensure that safety standards identified in the Fire Orders, the Watch Out Situations, and agency policies are followed at all times.
  - Personally scout and communicate with others to be knowledgeable of fire conditions, fire weather, tactical progress, safety concerns and hazards, condition of personnel, and needs for additional resources.
  - Order resources to implement the management objectives for the fire.
  - Inform appropriate dispatch of current situation and expected needs.
  - Coordinate mobilization and demobilization with dispatch and the FMO.
  - Perform administrative duties, i.e., approving work hours, completing fire reports for command period, maintaining property accountability, providing or obtaining medical treatment, and evaluating performance of subordinates.
  - Assure aviation safety is maintained to the highest standards.

**Initial attack modules**

An initial attack module will not be assembled at this field station due to low fire occurrence and staff limitations.

Employees participating in any wildland fire activities on Fish and Wildlife Service or cooperators' lands will meet fitness requirements established in PMS 310-1, except where Service-specific fitness requirements apply.

**INTERAGENCY COORDINATION**

The State of Michigan has primary responsibility for wildland fire suppression on hatchery lands under state law. A table of cooperators and type of agreement is found below

Table 2 - Cooperator List

Cooperator	Agreement Type
MI Department of Natural Resources	None, Statutory

Alba VFD (Structure Protection)	None, Statutory
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Structure fires are the responsibility of the Alba Volunteer Fire Department. This department is primarily tax funded and costs are not charges to the property owner.

If needed, Jordan River National Fish Hatchery will use the Incident Command System (ICS) as a guide for fireline organization. Qualifications for individuals follows the National Wildland Fire Coordination Group (NWCG) Wildland and Prescribed Fire Qualification System Guide.

#### **PROTECTION OF SENSITIVE RESOURCES**

A critical consideration during suppression operations is the use of foams or other retardants near water sources for the hatchery. Fish have been shown to be extremely sensitive to the presence of these agents (Gaikowski et al, 1996). An agreement with both MIDNR and Alba Volunteer Fire Department to enumerate restrictions on foam or retardant use is needed. Environmental guidelines for foam or retardant use, taken from a paper published by the Forest Service's Missoula Technology and Development Center, are found in Appendix K.

Water quality considerations should drive every facet of a wildland fire suppression operation on hatchery lands. Use of heavy equipment for fireline installation is restricted to those areas of the hatchery property away from the water intake areas. There are two intake structures; Five Tile to the north and Six Tile to the south of the residences. In addition there are underground electric lines to both sites and underground waterlines from the intake structures to the hatchery proper.

It is unlikely that any wildlife resources will be affected more than temporarily by smoke and the flame front (Craven, 1985). While vegetation may be affected by fire; the effects will depend on fire intensity, rate of spread, condition of fuels and other factors.

Hatchery staff will be available to show critical areas that could be adversely affected by either fire or suppression operations, staff would act as resource advisor to the Incident Commander.

Preparation for prescribed fires such as constructing fire lines are subject to Section 106 of the National Historic Preservation Act. The procedures in the Notice dated December 8, 1999, "Historic Preservation Responsibilities," apply to the planning and preparation for conducting prescribed fires.

Efforts to control wildland fires (including prescribed fires that get out of control) are also subject to Section 106 of the National Historic Preservation Act. We will meet our obligations under this act in the following ways:

When the land covered by a wildfire has been inventoried to identify cultural resources, and the cultural resources have been evaluated for significance according to the criteria for the National Register of Historic Places, the Fire Management Officer will direct ground disturbing fire suppression efforts around (will avoid impacting) historic properties. Nevertheless, evidence of a previously undetected cultural resource may be encountered. The project leader shall immediately notify the Regional Historic Preservation Officer (RHPO). The RHPO will take immediate steps to have the cultural resource evaluated and protected, as appropriate, to the extent required by law and policy. This may require arranging for a qualified professional to visit and evaluate the site's importance and recommend a course

of action. An evaluation and decision on the disposition of the cultural resource should be made within 48 hours of the discovery unless the project's schedule allows greater flexibility.

When the land covered by a wildfire has *not* been inventoried for cultural resources and wildfire suppression activities do result in ground disturbing activities, we will take the following action. Soon after fire control, the project leader will contact the RHPO to arrange for an archeologist to investigate the disturbed areas to determine if sites were affected.

Hatchery operations and maintenance funds will pay the cost of these activities unless the action is an emergency archeological and historic property survey in unstable areas prone to further degradation (i.e., erosion) following a wildland fire or in association with an emergency fire rehabilitation treatment. Emergency archeological and historic property surveys in unstable areas prone to further degradation (i.e., erosion) following a wildland fire or in association with an emergency fire rehabilitation treatment, and archeological, historic structure, cultural landscape, and traditional cultural property resource stabilization and rehabilitation can be funded with emergency rehabilitation funding.

Impacts to archeological resources by fire vary. The four basic sources of damage are (1) fire intensity, (2) duration of heat, (3) heat penetration into soil, and (4) suppression actions. Of the four, the most significant threat is from equipment during line construction for wildland fire holding actions.

The following actions will be taken to protect archeological and cultural resources:

#### Wildland Fires

- Minimum impact fire suppression tactics will be used to the fullest extent possible.
- Foam use will be minimized in areas known to harbor surface artifacts.
- Resource Advisors will inform Fire Suppression personnel of any areas with cultural resources and should contact the Regional Historic Preservation Officer and/or his/her staff for more detailed information.
- Mechanized equipment should not be used in areas of known cultural significance.
- The location of any sites discovered as the result of fire management activities will be reported to the Regional Historic Preservation Officer.
- Rehabilitation plans will address cultural resources impacts and will be submitted to the Regional Historic Preservation Officer for review.

## **WILDLAND FIRE ACTIVITIES**

Fire program management describes the operational procedures necessary to implement fire management at Jordan River National Fish Hatchery. Program management includes: fire prevention, preparedness, emergency preparedness, fire behavior predictions, step-up staffing plan, fire detection, fire suppression, minimum impact suppression, minimum impact rehabilitation, and documentation.

All fires will be appropriately suppressed. As this station has no fire history since start of acquisition, a full suppression response is the accepted practice.

Records from MIDNR show that fire season is typically from mid-April to late May or early June and then possibly from mid-September to snowfall, usually mid-November, if sufficiently dry conditions exist. Depending on the specific weather of any particular year the seasons may be shorter or longer and, therefore, may start earlier or last longer.

### **FIRE MANAGEMENT STRATEGIES**

Although resource impacts of suppression alternatives must always be considered in selecting a fire management strategy, managing fire for resource benefit will not be the primary consideration. Appropriate suppression action taken will ensure firefighter safety, public safety, and protection of unit resources.

Critical protection areas, such as the water intake areas for the hatchery will receive priority consideration in fire suppression planning efforts. In all cases, the primary concerns of fire suppression personnel shall be safety, and if needed, all individuals not involved in the suppression effort may be evacuated.

Suppression strategies should be applied so that the equipment and tools used to meet the desired objectives are those that inflict the least impacts upon the natural and cultural resources. Minimum impact suppression tactics (MIST) will be employed to protect all resources. Natural and artificial barriers will be used as much as possible for containment. When necessary, fire line construction will be conducted in such a way as to minimize long-term impacts to resources. Sites impacted by fire suppression activities or by the fire will be rehabilitated as necessary, based on an approved course of action for each incident.

Specific fire management strategies for Jordan River National Fish Hatchery are:

- All wildland fires will be controlled using the appropriate suppression strategy which considers safety, property, natural resources, and economics.
- Priority will be given to the protection of hatchery water supplies and facilities for water collection.
- Mechanical treatment will be used to reduce hazardous fuels around structures and improvements as needed.
- Known cultural resource areas will be excluded from all fire management activities including fire line location and retardant drops.

### **PREPAREDNESS**

Preparedness is the work accomplished prior to fire occurrence to ensure that the appropriate response, as directed by the Fire Management Plan, can be carried out. Preparedness

activities include: budget planning, equipment acquisition, equipment maintenance, dispatch (Initial attack, extended, and expanded), equipment inventory, personnel qualifications, and training. The preparedness objective is to have a well trained and equipped fire management organization to manage all fire situations available locally. Preparedness efforts are normally accomplished in time frames outside the normal fire season dates. As there is no fire history at Jordan River, preparedness tasks will be accomplished by the zone FMO.

### **Historical weather analysis**

The hatchery has no weather station. Weather history (Figure 3) comes from National Oceanic and Atmospheric Administration (NOAA) records at Bellaire, MI.

Figure 3 - Bellaire, MI Climatology

There is no occurrence data for the hatchery as no wildland fires have been recorded since establishment.

### **Fire Prevention**

An active fire prevention program will be conducted, as needed, in conjunction with other agencies to protect human life and property, and prevent damage to cultural resources or physical facilities.

A program of internal and external education regarding potential fire danger may be implemented. Visitor contacts, bulletin board materials, handouts and interpretive programs can be utilized to increase visitor and neighbor awareness of fire hazards.

During periods of extreme or prolonged very high fire danger, emergency restrictions regarding hatchery operations, or area closures may become necessary. Such restrictions, when imposed, will usually be consistent with those implemented by cooperators.

### **Hazard Reduction for Structure Protection**

Hazard reduction is conducted to prevent wildland fires from spreading onto structures owned by the FWS. Because most structures subject to fire damage are located in the open, mowed portions of the facility, little protection is necessary. Defensibility is good to excellent. East of the residences towards the wildland fuels, clear areas should be maintained at least 30 feet (<http://www.Firewise.org>) from the buildings including storage structures.

### **Staffing Priority Levels**

As no weather station is present on the property and there is no suppression capability on staff a limited Step-up Plan (Appendix H) that addresses prevention actions has been developed.

It is expected that during periods of extreme fire danger as determined by Michigan Department of Natural Resources, visitors would be warned of the risk of fire and access to portions of the unit away from roads and the hatchery/rearing ponds area would be restricted.

### **Training**

Departmental policy requires that all personnel engaged in suppression and prescribed fire duties meet the standards set by the National Wildfire Coordinating Group (NWCG). Jordan River National Fish Hatchery will conform strictly to the requirements of the wildland fire management qualification and certification system and USFWS guidelines.

Basic wildland fire training refreshers are offered annually for red-carded firefighters and records kept in a centralized database. Additional training is available from surrounding agencies in pump and engine operation, power saws, firefighter safety, fire weather and fire behavior, and helicopter safety. On-the job training is encouraged and will be conducted at the field level. Whenever appropriate, the use of fire qualification task books will be used to

document fire experience of trainees. The FMO will coordinate fire training needs with those of other nearby FWS units, cooperating agencies, and the RO.

Fire suppression is an arduous duty. Poor physical condition of crew members can endanger safety and lives during critical situations. Personnel performing fire management duties will maintain a high level of physical fitness. This requires successful completion of a fitness pack test. Appendix J contains a brief explanation of the physical testing requirements.

### **Supplies and Equipment**

There are no suppression tools or equipment on the hatchery except those handtools usually available (shovels, rakes, etc.) for normal grounds maintenance. As no one on the hatchery is trained for fire operations none of the personnel are equipped with Personal Protective Equipment.

### **DETECTION**

Fires detected by hatchery staff would be reported to MIDNR in Bellaire, MI. Fires detected by visitors would be reported in the same manner. As needed, MIDNR may utilize aerial detection flights.

The Fire Management Plan does not discriminate between human-caused and lightning caused fire. All wildland fires will be suppressed. However, detection shall include a determination of fire cause. Moreover, human-caused fires will require an investigation and report by law enforcement personnel. For serious human-caused fires, including those involving loss of life, a qualified arson investigator will be requested. Qualified investigators are available from MIDNR.

### **COMMUNICATIONS**

The hatchery has no land based radio system. Several distribution vehicles have radios capable of vehicle to vehicle contact, none of these radios is adequate for fire use. Cellular phone coverage around the hatchery is poor. Communications would be expected to be provided by the responding agency with appropriate frequency sharing agreements in place.

### **PRE-ATTACK PLAN**

Upon discovery of a fire, all subsequent actions will be based on the following:

- The Incident Commander (IC) will locate, size-up, and coordinate suppression actions.
- Provide for public safety.
- Considering the current and predicted fire conditions, the Incident Commander will assess the need for additional suppression resources and estimate the final size of the fire. The potential for spread outside of the hatchery should be predicted, as well as the total suppression force required to initiate effective containment action at the beginning of each burning period.
- The Incident Commander will assess the need for law enforcement personnel for traffic control, investigations, evacuations, etc. and make the request to the FMO.
- Document decisions and complete the fire report (DI-1202).
- Should a wildland fire move into an extended attack a Delegation of Authority will be invoked. Once a Delegation of Authority has been authorized the Incident Commander will make the final decisions pertaining to the fire. A sample Delegation of Authority is found in Appendix C.

### **FIRE MANAGEMENT UNITS**

There is only one Fire Management Unit (FMU) on the hatchery. It is all encompassing.

Due to staff limitations, relatively small land area, long response times, valuable resources on the hatchery, and values at risk on neighboring lands, this plan does not recommend wildland fire managed for resource benefit as an option for the unit. Wildland fires will be suppressed using the appropriate suppression response.

### **Fire Effects**

Fire effects are expected to be limited due to the mostly moist conditions found on the hatchery. Effects on forest vegetation are not expected to be severe unless significant drought conditions are present. Areas that are grass covered would recover within a growing season or less depending on the time of fire occurrence.

Effects of fire on wildlife may be divided into two categories. Large mammals are not likely to be affected as they are highly mobile and most fires in the area would be expected to be relatively slow moving. Smaller mammals and reptiles may be more subject to fire because of limited mobility. Most reptiles would be in wetter areas or burrows where temperatures are cooler. Effects on small mammals would be more pronounced in the grass fuels and in the ecotone between grass and forest or brush fuels where escape is difficult. Some small mammals such as field mice and voles may be caught by the flame front but mortality is not expected to be heavy (Kelleyhouse, 1979). Regeneration of vegetation provides an excellent habitat for these small species and natural reproduction will quickly repopulate the area (Schramm, et al, 1983).

### **Fuel Types**

Northern Hardwoods - this type is best represented by Northern Forest Fire Laboratory (NFFL) fuel models 8 and 10 or Canadian Fire Behavior Prediction (FBP) System model M-1. This fuel covers most of the hatchery property and consists of litter and understory growth with a 75 to 90 % crown closure. Species found in this fuel complex include aspen, red maple, sugar maple, red oak, balsam fir, red pine and others requiring mesic sites.

Marsh and lowland brush - represented best by NFFL fuel model 5 or FBP model O-1a, the site is wet and contains primarily alder, willows (*Salix spp.*) and matted marsh grasses.

### **Fire Behavior**

Normal fire behavior in the forest fuels on the hatchery would be slow moving with minimal (1-2') flame lengths. Areas with a high percentage of pine would be expected to burn somewhat faster, with longer flame length and more heat output. The marsh/brush areas would see flame lengths of 1-3' with a rapid spread component depending on the stage of curing otherwise the type is wet enough to seldom support fire.

Extreme fire behavior in the hardwood areas would see flame lengths of 2-4 feet with potentially rapid spread depending on the season and condition of the litter layer. During the fall with cured fuels and drought conditions, flame lengths could run to 6+ feet with rates of spread high enough to require indirect attack. The areas with a high percentage of conifer could see flame lengths of 4-6' with potential crown fire development.

### **SUPPRESSION TACTICS**

Suppression involves a wide range of possible tactics from the initial attack to final control. To this end, all wildland fires will be suppressed in a safe, aggressive, and cost-effective manner to produce efficient action with minimal resource damage and limit smoke impacts to local communities.

Typical initial attack response by MIDNR will include an engine and tractor plow with 2 or 3 firefighters. Depending on local conditions, MIDNR may dispatch additional personnel and/or equipment. All fires will be assessed by the first on-scene incident commander and attacked using minimum impact fire suppression tactics for the hatchery. Roads and natural barriers will be used as much as possible to reduce fireline construction. Fireline and mop-up through riparian areas should consider long-term damage to water quality and vegetation. Unnecessary cutting and bucking should be replaced with alternative actions whenever possible. Back-fires and burnout operations should consider fire intensities and attempt to avoid excessive heating of the soil or running fire into riparian areas. Where wildland fires cross roads, the burned area adjacent to the road should be mopped up and dangerous snags felled.

Foam and/or retardant use on the hatchery will be restricted due to sensitivity of fish populations to these chemicals. No foam or retardant will be used within 200 feet of watercourses supplying the hatchery nor within 400 feet of raceways and rearing ponds.

In addition to consultation with the Project Leader or a designated representative, a resource advisor should be assigned to the incident from the beginning to document rehabilitation needs, and assist with on-the-ground tactical decisions.

There will be only one Incident Commander responsible to the project leader. The Incident Commander will designate all overhead positions on fires requiring extended attack. A Delegation of Authority (Appendix C) should be in place.

### **Suppression Conditions**

A full suppression alternative was selected for the hatchery which requires containment and control of all wildland fires. Certain guidelines have been developed to assist with this strategy to protect the hatchery from unnecessary damage. Heavy equipment and aircraft/retardant use is restricted due to cultural, wildlife, and safety concerns. Unless life or property is at imminent risk, consultation with the hatchery manager or designated representative prior to their use is necessary. This guidance is based on the fact that water quality to supply the hatchery is critical to both hatchery operations and restoration of lake trout stocks. At the Annual Operating Plan Review, issues of restrictions should be discussed with cooperators. Changes and areas of concerns should be documented.

### **Wildland Fire Situation Analysis**

The small size of the hatchery indicates that any fire would be likely to have left hatchery property within the first or early in the second burning period. All adjacent land is owned by the State of Michigan as part of the Mackinaw State Forest. The lack of immediate threat to private structures, small size of the unit and lack of fire occurrence since establishment precludes the need for a WFSA on any hatchery fire.

### **Aircraft Operations**

Aircraft may be used in all phases of fire management operations. All aircraft and pilots must be Office of Aircraft Services (OAS) or Forest Service approved. An OAS Aviation Policy Department Manual will be provided by OAS.

Helicopters may be used for reconnaissance, bucket drops and transportation of personnel and equipment. Parking lots are available for use as helispots. New helispots will not be allowed on the hatchery.

As in all fire management activities, safety is a primary consideration. Aviation personnel should be asked to show both the aircraft and pilot qualification cards issued by either OAS or the Forest Service.

### **REHABILITATION AND RESTORATION**

There are 3 types of fire rehabilitation, Suppression, Burn Area, and Emergency Stabilization.. Suppression rehabilitation is to restore and repair property and resources from direct suppression activity damage, i.e. cut fences, dozer lines, and campsites. Burn area rehabilitation and stabilization is to restore resources and property damaged or otherwise impacted from the fire, i.e. burned waterlines, denuded hill sides, etc.

#### *Suppression Rehabilitation*

In the event of a wildland fire, rehabilitation of fire suppression damage should be accomplished immediately. An appropriate time is within 7 days after the fire is controlled unless the regional fire coordinator grants an extension. Funding for suppression rehabilitation is from the specific fire cost account as established by the FMO. The Incident Commander as agreed to by the Project Leader will initiate suppression rehabilitation. Rehabilitation will be directed toward minimizing or eliminating the effects of the suppression effort and reducing the potential hazards caused by the fire. These actions may include:

- Backfill control lines, scarify, and seed\*.
- Install water bars and construct drain dips on control lines to prevent erosion.
- Restore natural ground contours, which were altered.
- Remove all flagging, equipment and litter.
- Completely restore camping areas and improved helispots.
- Re-vegetation to restore sensitive impacted areas due to suppression actions\*.

\*If re-vegetation or seeding is necessary, only locally procured seeds of native plant species will be used.

A written suppression rehabilitation plan may be appropriate on larger incidents. Contractors or equipment may be hired to accomplish specialized work.

#### *Emergency Stabilization Versus Rehabilitation*

Emergency stabilization is the use of appropriate emergency stabilization techniques in order to protect public safety and stabilize and prevent further degradation of cultural and natural resources in the perimeter of the burned area and downstream impact areas from erosion and invasion of undesirable species. Rehabilitation is the use of appropriate rehabilitation techniques to improve natural resources as stipulated in approved management plans and the repair or replacement of minor facilities damaged by the fire.

Total "rehabilitation" of a burned area is not within the scope of the Emergency Rehabilitation funding. Emergency Rehabilitation funding can be used to begin the rehabilitation process if other funding is committed to continue the rehabilitation throughout the life of the project (beyond the initial 3 years of Emergency Rehabilitation funding). Major facilities are repaired or replaced through supplemental appropriations of other funding.

*Burned Area Emergency Stabilization and Rehabilitation (ESR) Plan*

The goal of the ESR Plan is to protect public safety and stabilize and prevent further degradation of natural and cultural resources, and to rehabilitate the stability, productivity, diversity, and ecological integrity of Service lands after a wildland fire as described in approved management plans. The ESR Plan is tiered to the hatchery Development Plan and FMP. Development of ESR Plan objectives is guided by resource management objectives, general management practices, and constraints identified in approved plans.

If Burned Area Emergency Stabilization and Rehabilitation is required to reduce the effects of a wildland fire, then the hatchery should request appropriate funding through the Burned Area Emergency Stabilization and Rehabilitation (ESR) fund. The Service representative at the National Interagency Fire Center administers the ESR fund. A rehabilitation and restoration survey, plan, and request must be prepared and submitted according to agency guidelines. Smaller incidents may only need simple plans prepared by local staff. This is the case at Jordan River due to the limited size of the unit. The Project Leader and FMO will review all ESR Plans. The final plan will be submitted to the Region for review prior to submission to the WO. Direction on ESR guidelines can be found in the Interagency Burned Area Emergency Stabilization and Rehabilitation Handbook.

**REQUIRED REPORTING**

The IC will be responsible for documenting decisions and providing information to the Project Leader to complete the fire report (DI-1202). The FMO will be responsible for any additional required reports.

**FIRE INVESTIGATION**

Fire management personnel will attempt to locate and protect the probable point of origin and record pertinent information required to determine fire cause. They will be alert for possible evidence, protect the scene and report findings to the fireline supervisor.

Prompt and efficient investigation of all suspicious fires will be carried out. However, fire management personnel should not question suspects or pursue the fire investigation unless they meet state requirements for MIDNR investigators or federal standards for federal investigators. All fire investigations should follow the guidelines outlined in 4.1-2 of the Fire Management Handbook (2000).

## **FIRE RESEARCH**

No fire related research is occurring on the hatchery and none is planned.

## **PUBLIC SAFETY**

Jordan River National Fish Hatchery is dedicated to ensuring the safety of each visitor and all residents. Public safety will require coordination between all hatchery staff and the IC during a fire. Notices should be posted to warn visitors, trails may be closed, traffic control will be necessary where smoke crosses roads, etc. Where wildland fires cross roads, the burned area adjacent to the road should be mopped up and dangerous snags felled.

A contact list for nearby residents is found in Appendix E. All of the land immediately adjacent to the hatchery is owned by the State of Michigan as part of the Mackinaw State Forest.

Local police, fire, and emergency medical services will be notified of any wildland fires.

## **PUBLIC INFORMATION AND EDUCATION**

The public information program will be developed as follows:

- The fire management program may be incorporated into visitor contacts. Particular attention will be given when fires are conspicuous from roads or visitor use areas.
- News releases will be distributed to the media as appropriate.
- The public information outlets of neighboring and cooperating agencies and the regional office will be provided with all fire management information.
- The fire management program will be discussed in informal talks with all employees , volunteers, residents, and neighbors.

During unwanted wildland fire events, on-site information will be provided to alleviate visitor concern about the apparent destruction of resources by fire or the impairment of visitor activities due to smoke.

As outlined in the prevention section, emergency closures or restrictions may become necessary during periods of extreme or extended fire danger.

## **FIRE CRITIQUES AND ANNUAL PLAN REVIEW**

### **FIRE CRITIQUES**

Fire reviews will be documented and filed with the final fire report. The FMO will retain a copy for the hatchery files.

### **ANNUAL FIRE SUMMARY REPORT**

The FMO will be responsible for completing an annual fire summary report. The report will contain the number of fires by type, acres burned by fuel type, cost summary, personnel utilized, and fire effects.

### **ANNUAL FIRE MANAGEMENT PLAN REVIEW**

The Fire Management Plan will be reviewed annually. Necessary updates or changes will be accomplished prior to the next fire season. Any additions, deletions, or changes will be reviewed by the Project Leader to determine if such alterations warrant a re-approval of the plan.

### **CONSULTATION AND COORDINATION**

The following agencies, organizations and/or individuals were consulted in preparing this plan.

Beckner, Clarice, Administrative Assistant, Jordan River National Fish Hatchery

Gale, Cal, Program Analyst, RS Staffing, Inc.

Moore, Stan, Michigan State University Extension, East Jordan, MI

Peterson, Robert, Biological Technician, Jordan River National Fish Hatchery

Westerhof, Rick, Project Leader, Jordan River National Fish Hatchery

## APPENDICES

### APPENDIX A: REFERENCES CITED

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## **APPENDIX B: DEFINITIONS**

Agency Administrator. The appropriate level manager having organizational responsibility for management of an administrative unit. May include Director, State Director, District Manager or Field Manager (BLM); Director, Regional Director, Complex Manager or Project Leader (FWS); Director, Regional Director, Park Superintendent, or Unit Manager (NPS), or Director, Office of Trust Responsibility, Area Director, or Superintendent (BIA).

Appropriate Management Action. Specific actions taken to implement a management strategy.

Appropriate Management Response. Specific actions taken in response to a wildland fire to implement protection and fire use objectives.

Appropriate Management Strategy. A plan or direction selected by an agency administrator which guide wildland fire management actions intended to meet protection and fire use objectives.

Appropriate Suppression. Selecting and implementing a prudent suppression option to avoid unacceptable impacts and provide for cost-effective action.

Bureau. Bureaus, offices or services of the Department.

Canadian Forest Fire Danger Rating System (CFFDRS). A system developed and used by Canadian agencies and the State of Michigan to predict fire danger, and to establish various levels of daily preparedness.

Class of Fire (as to size of wildland fires):

Class A - 3 acre or less.

Class B - more than 3 but less than 10 acres.

Class C - 10 acres to 100 acres.

Class D - 100 to 300 acres.

Class E - 300 to 1,000 acres.

Class F - 1,000 to 5,000 acres.

Class G - 5,000 acres or more.

Emergency Fire Rehabilitation/Burned Area Emergency Rehabilitation (EFR/BAER). Emergency actions taken during or after wildland fire to stabilize and prevent unacceptable resource degradation or to minimize threats to life or property resulting from the fire. The scope of EFR/BAER projects are unplanned and unpredictable requiring funding on short notice.

Extended attack. A fire on which initial attack forces are reinforced by additional forces.

Fire Suppression Activity Damage. The damage to lands, resources and facilities directly attributable to the fire suppression effort or activities, including: dozer lines, camps and staging areas, facilities (fences, buildings, bridges, etc.), handlines, and roads.

Fire effects. Any consequences to the vegetation or the environment resulting from fire, whether neutral, detrimental, or beneficial.

Fire intensity. The amount of heat produced by a fire. Usually compared by reference to the length of the flames.

Fire management. All activities related to the prudent management of people and equipment to prevent or suppress wildland fire and to use fire under prescribed conditions to achieve land and resource management objectives.

Fire Management Plan. A strategic plan that defines a program to manage wildland and prescribed fires and documents the Fire Management Program in the approved land use plan. The plan is supplemented by operational procedures such as preparedness plans, preplanned dispatch plans, prescribed fire plans and prevention plans.

Fire prescription. A written direction for the use of fire to treat a specific piece of land, including limits and conditions of temperature, humidity, wind direction and speed, fuel moisture, soil moisture, etc., under which a fire will be allowed to burn, generally expressed as acceptable range of the various fire-related indices, and the limit of the area to be burned.

Fuels. Materials that are burned in a fire; primarily grass, surface litter, duff, logs, stumps, brush, foliage, and live trees.

Fuel loadings. Amount of burnable fuel on a site, usually given as tons/acre.

Hazard fuels. Those vegetative fuels which, when ignited, threaten public safety, structures and facilities, cultural resources, natural resources, natural processes, or to permit the spread of wildland fires across administrative boundaries except as authorized by agreement.

Initial Attack. An aggressive suppression action consistent with firefighter and public safety and values to be protected.

Maintenance burn. A fire set by agency personnel to remove debris; i.e., leaves from drainage ditches or cuttings from tree pruning. Such a fire does not have a resource management objective.

Natural fire. A fire of natural origin, caused by lightning or volcanic activity.

NFDRS Fuel Model. One of 20 mathematical models used by the National Fire Danger Rating System to predict fire danger. The models were developed by the US Forest Service and are general in nature rather than site specific.

NFFL Fuel Model. One of 13 mathematical models used to predict fire behavior within the conditions of their validity. The models were developed by US Forest Service personnel at the Northern Forest Fire Laboratory, Missoula, Montana.

Prescription. Measurable criteria which guide selection of appropriate management response and actions. Prescription criteria may include safety, public health, environmental, geographic, administrative, social, or legal considerations.

Prescribed Fire. A fire ignited by agency personnel in accord with an approved plan and under prescribed conditions, designed to achieve measurable resource management objectives. Such a fire is designed to produce the intensities and rates of spread needed to achieve one or more planned benefits to natural resources as defined in objectives. Its purpose is to employ fire scientifically to realize maximize net benefits at minimum impact and acceptable cost. A written, approved prescribed fire plan must exist and NEPA requirements must be met prior to ignition. NEPA requirements can be met at the land use or fire management planning level.

Preparedness. Actions taken seasonally in preparation to suppress wildland fires, consisting of hiring and training personnel, making ready vehicles, equipment, and facilities, acquiring supplies, and updating agreements and contracts.

Prevention. Activities directed at reducing the number or the intensity of fires that occur, primarily by reducing the risk of human-caused fires.

Rehabilitation (1) Actions to limit the adverse effects of suppression on soils, watershed, or other values, or (2) actions to mitigate adverse effects of a wildland fire on the vegetation-soil complex, watershed, and other damages.

Suppression. A management action intended to protect identified values from a fire, extinguish a fire, or alter a fire's direction of spread.

Unplanned ignition. A natural fire that is permitted to burn under specific conditions, in certain locations, to achieve defined resource objectives.

Wildfire. An unwanted wildland fire.

Wildland Fire. Any non-structure fire, other than prescribed fire, that occurs in the wildland.

Wildland Fire Situation Analysis (WFSA). A decision-making process that evaluates alternative management strategies against selected safety, environmental, social, economical, political, and resource management objectives as selection criteria.

Wildland/urban interface fire A wildland fire that threatens or involves structures.

## **APPENDIX C: SAMPLE DELEGATION OF AUTHORITY**

### **Jordan River National Fish Hatchery Iron River, WI**

#### **Limited Delegation of Authority**

As of 1800, May 20, 2001, I have delegated authority to manage the Jordan North fire, number 3102, Jordan River National Fish Hatchery, to Incident Commander, John Doe and his Incident Management Team.

The fire which originated as an arson fire on May 18, 2001, is burning in habitat adjacent to the hatchery boundary. My considerations for management of this fire are:

1. Provide for firefighter safety.
2. I would like the fire managed in such a manner that suppression actions will cause little environmental damage as possible.
3. Key features requiring priority protection are: the watershed of the hatchery water supply.
4. Key resource considerations are: protecting water quality in the area of the Five Tile intake.
5. Restrictions for suppression actions are no tracked vehicles in the area of the water intakes; no foam or retardant use within 200 feet of the creeks or within 400 feet of raceways and rearing ponds.
6. Minimum tools for use are Type II/III helicopters, and chainsaws.
7. My agency advisor will be Biological Technician, Robert Peterson.
8. Managing the fire cost-effectively for the values at risk is a significant concern.

---

Rick Westerhof  
Project Leader Jordan River National Fish Hatchery  
May 20, 2001

**APPENDIX D: NEPA DOCUMENTATION**

This plan does not support any activities that would constitute a new Federal action. It only documents the current situation which has been in existence since 1963. It is eligible for Categorical Exclusion status and this is reflected in the Finding of No Significant Impact.

**APPENDIX E: ANNUAL UPDATE DOCUMENTS**

**Cache Equipment Inventory**

No cache or fire equipment on station.

**APPENDIX E: CONTINUED**

**Cooperator Contacts**

Table 3 - Cooperator Contact List

<b>Name</b>	<b>Phone Number</b>
Alba Volunteer Fire Department	(231) 584-2100
Michigan Department of Natural Resources Bellaire Field Office	(231) 533-8341
Michigan Department of Natural Resources Gaylord Operations Center	(989) 732-3541

**APPENDIX E: CONTINUED**

**Adjacent Landowner Contact List**

Table 4 - Nearby Landowner Contact List

<b>Owner</b>	<b>Address</b>	<b>Phone #</b>
June Latimer-Jones	Turner Road Elmira, MI 49730	(231) 584-2224
Kitchen Farms	2400 S. US 131 Elmira, MI 49730	(231) 584-2558
Donald Kitchen	1466 S. US 131 Elmira, MI 49730	(231) 584-2264

**APPENDIX E: CONTINUED**

**Cooperative Agreements**

No cooperative agreements currently in force.

**APPENDIX E: CONTINUED**

**Wildland Fire Dispatch Plan**

*Jordan River National Fish Hatchery  
Dispatch Plan*

*When report of smoke or fire is received get as much information as possible from the caller.  
The following list should be filled in.*

*Location of smoke or fire:*

*Location of caller:*

*Name and telephone number of caller:*

*Color of smoke:*

*Size of fire:*

*Type of Fuel:*

*Character of fire (running, creeping, etc.):*

*Anyone on the fire:*

*See anyone in the area or vehicles leaving the area:*

- 1. Check map location and ownership/protection status*
- 2. If fire is on or threatening hatchery call MIDNR in Bellaire (231) 533-8341*
- 3. Notify Project Leader*
- 4. Maintain log of all telephone communications.*
- 5. Remain on duty and notify:*

*Adjacent landowners:*

*Mackinaw State Forest (231)*

*Nearby residents not adjacent to the hatchery.*

*June Latimer-Jones (231) 584-2224  
Turner Road, Elmira, MI 49730*



<i>Otsego Memorial Hospital</i> <i>825 N. Center Ave., Gaylord, MI</i>	<i>(989) 731-2100</i>
<i>Ambulance</i>	<i>911</i>
<i>Lifelink</i> <i>406 Dale Mancina Village, Mancelona, MI</i>	<i>(231) 587-0150</i>
<i>Otsego Ambulance Corps</i> <i>200 Shipp St., Gaylord, MI</i>	<i>(989) 732-9085</i>
<i>Sheriff</i>	<i>911</i>
<i>State Police</i>	<i>911</i>

**APPENDIX F: JORDAN RIVER SPECIES LISTS**

Species lists for this hatchery do not exist. Table 5 contains the list of those Federally protected species with potential to be found in the vicinity of the hatchery.

**Federal Threatened or Endangered Species**

Table 5 - Federal Listed Threatened or Endangered Species

Common Name	Accepted Scientific Name	Status
<b>BIRDS</b>		
Bald Eagle	<i>Haliaeetus leucocephalus</i>	T
Kirtland's Warbler	<i>Dendroica kirtlandii</i>	E
Piping Plover	<i>Charadrius melodus</i>	E
<b>MAMMALS</b>		
Canada Lynx	<i>Lynx canadensis</i>	T
Eastern Puma	<i>Puma concolor cougar</i>	E
Indiana Bat	<i>Myotis sodalis</i>	E
Gray Wolf	<i>Canis lupis</i>	E
<b>INSECTS: BUTTERFLIES &amp; MOTHS</b>		
Karner Blue Butterfly	<i>Lycaeides melissa samuelis</i>	E
Mitchell's Satyr Butterfly	<i>Neonympha mitchellii mitchellii</i>	E
<b>PLANTS</b>		
American hart's-tongue fern	<i>Asplenium scolopendrium var. americanum</i>	T
Dwarf lake iris	<i>Iris lacustris</i>	T
Eastern prairie fringed orchid	<i>Platanthera leucophaea</i>	T
Fassett's locoweed	<i>Oxytropis campestris</i>	T
Houghton's goldenrod	<i>Solidago houghtonii</i>	T

Common Name	Accepted Scientific Name	Status
Lakeside daisy	<i>Hymenoxys herbacea</i>	T
Michigan monkey-flower	<i>Mimulus glabratus var. michiganensis</i>	E
Pitcher's thistle	<i>Cirsium pitcheri</i>	T
Small whorled pogonia	<i>Isotria medeoloides</i>	T

### Michigan State Threatened or Endangered Species

The table below is derived from the Michigan Natural Features Inventory and includes those state T&E species reported in, or reasonably expected to be found in, Antrim County.

Table 6 - State Listed Threatened or Endangered Species - Antrim County

Common Name	Scientific Name	Status
<b>BIRDS</b>		
Bald eagle	<i>Haliaeetus leucocephalus</i>	T
Common loon	<i>Gavia immer</i>	T
Red-shouldered hawk	<i>Buteo lineatus</i>	T
<b>INSECTS</b>		
Lake huron locust	<i>Trimerotropis huroniana</i>	T
<b>PLANTS</b>		
Calypso or fairy-slipper	<i>Calypso bulbosa</i>	T
False-violet	<i>Dalibarda repens</i>	T
Ginseng	<i>Panax quinquefolius</i>	T
Lake huron tansy	<i>Tanacetum huronense</i>	T
Pine-drops	<i>Pterospora andromedea</i>	T
Pitcher's thistle	<i>Cirsium pitcheri</i>	T

**APPENDIX G: HISTORIC FIRE SEASON ANALYSIS**

No unwanted wildland fires have been recorded on the hatchery since initial land acquisition. An analysis may be completed in future revisions if sufficient fire activity occurs.

**APPENDIX H: STEP-UP PLAN**

As there is no fire qualified staff on the hatchery, the step-up plan only addresses public and visitor information needs. Adjective class will be obtained from MIDNR at the Bellaire Field Office. The breakpoints for adjective ratings are based on the Canadian Forest Fire Danger Rating System and calculated by MIDNR.

Adjective Class	Step up Actions
Low	No special public information efforts
Moderate	No special public information efforts
High	No special public information efforts
Very High	Personal contacts with visitors, bulletin board materials, and handouts will be utilized to increase visitor and neighbor awareness of fire hazards.
Extreme	During periods of extreme or prolonged very high fire danger emergency restrictions regarding hatchery operations, or area closures may become necessary. Such restrictions, when imposed, will be consistent with those implemented by cooperators.

### **APPENDIX I: COMMUNICATION PLAN**

As the hatchery has no radio system, a communication plan is not necessary. Cooperators will use their own systems with the appropriate frequency sharing agreements in place.

## APPENDIX J: PACK TEST BACKGROUND

What is the "pack test?"

Work capacity tests are used to qualify individuals for the three levels of wildland firefighting duty:

- ARDUOUS
- MODERATE
- LIGHT

The work capacity tests measure:

- Aerobic capacity
- Muscular strength
- Muscular endurance

**All wildland firefighters must meet minimum levels of fitness requirements for the type of duties they are assigned:**

**Arduous:** involves field work calling for above-average endurance and superior conditioning. All firefighters are required to perform arduous duty.

**Moderate:** involves field work requiring complete control of physical faculties and may include considerable walking, standing, and lifting 25-50 lbs. \_ Safety officers and fire behavior analysts are examples of moderate duty positions.

**Light:** involves mainly office-type work with occasional field activity. Examples include staging area and helibase managers.

Testing wildland firefighters for work capacity is important for several reasons:

- Personal safety and health
- Co-worker safety
- Improved operations

Fitness Requirement Test Description

<b>ARDUOUS</b>	Pack Test 3-mile hike with 45-lb. pack in 45 min.
<b>MODERATE</b>	Field Test 2-mile hike with 25-lb. pack in 30 min.
<b>LIGHT</b>	Walk Test 1-mile hike with no pack in 16 min.

**FOR MORE INFORMATION:**

Personal health, physical fitness, and work capacity all work toward making conditions safer for firefighters and the people they protect. Ask your local fire management office for more information.

## **APPENDIX K: ENVIRONMENTAL GUIDELINES FOR FOAM/RETARDANT USE**

The following guidelines should be followed to minimize the likelihood of retardant chemicals entering a stream or other body of water.

- During training or briefings, inform field personnel of the potential danger of fire chemicals, especially foam concentrates, in streams or lakes.
- Locate mixing and loading points where contamination of natural water, especially with the foam concentrate, is minimal.
- Maintain all equipment and use check valves where appropriate to prevent release of foam concentrate into any body of water.
- Exercise particular caution when using any fire chemical in watersheds where fish hatcheries are located.
- Locate dip operations to avoid run-off of contaminated water back into the stream.
- Dip from a tank rather than directly from a body of water, to avoid releasing any foam into these especially sensitive areas.
- Use a pump system equipped with check valves to prevent flow of any contaminated water back into the main body of water.
- Avoid direct drops of retardant or foam into rivers, streams, lakes, or along shores. Use alternative methods of fire line building in sensitive areas.
- Notify proper authorities promptly if any fire chemical is used in an area where there is likelihood of negative impacts.
- While it is preferable that drops into or along any body of water not occur, it is possible that the fire location and surrounding terrain make it probable that some retardant may enter the water. The person requesting the retardant (such as the incident commander) must balance the impacts on the environment, i.e., potential fish kill, with the resources and values to be protected from the fire.