

**Appendix 2:
Standard Operating
Procedures**



STANDARD OPERATING PROCEDURES

PART A – SOPS FOR SPECIES PROTECTION

Lahontan cutthroat trout (*Oncorhynchus clarki henshawi*)

Unless a threat to human life or property exists, the following standard operating procedures for species protection will apply to all streams occupied by Lahontan cutthroat trout (*Oncorhynchus clarki henshawi*) and native habitats identified as having recovery potential¹:

SUPPRESSION ACTIVITIES:

1. Avoid the application of retardant or foam within 300 feet of the stream channel or waterway².

Exceptions:

- When alternative line construction tactics are not available due to terrain constraints, congested area, life and property concerns or lack of ground personnel, it is acceptable to anchor the foam or retardant application to the waterway. When anchoring a retardant or foam line to a waterway, use the most accurate method of delivery in order to minimize placement of retardant or foam in the waterway (e.g., a helicopter rather than a heavy airtanker).
- Deviations from these guidelines are acceptable when life or property is threatened and the use of retardant or foam can be reasonably expected to alleviate the threat.
- When potential damage to natural resources outweighs possible loss of aquatic life, the unit administrator may approve a deviation from these guidelines³.

Emergency Consultation:

Aerial application of retardant or foam outside 300 ft of a waterway is presumed to avoid adverse effects to aquatic species. If it is determined appropriate to apply retardant or surfactant foam within 300 feet of a waterway or stream channel based on one or more of the exceptions listed above, the unit administrator shall determine whether there have been any adverse effects to LCT.

If the action agency determines there were no adverse effects to LCT or their habitats, there is no additional requirement to consult with Fish and Wildlife Service (FWS).

¹ The Humboldt Distinct Population Segment (DPS) Team will use the 1995 LCT Recovery Plan and the most recent data to develop a list and/or map which specifically identifies stream segments currently occupied by LCT and native ranges identified as having recovery potential. This list and/or map will be reviewed and updated as necessary based on the most current species information.

² Aerial application and use of retardants and foams will be consistent with national policy guidelines established by the National Office of Fire and Aviation, as amended.

³ This determination will be made on a case-by-case basis by the Field Manager or the designated Field Manager representative in consultation with the Fire Management Officer, Incident Commander, Resource Advisor, and Elko Field Office Fisheries Biologist through development of the Wildfire Situation Analysis.



If the action agency determines that there were adverse effects on LCT or their habitats then the action agency must consult with FWS, as required by 50 CFR 402.05 (Emergencies).

In the case of a long duration incident, emergency consultation should be initiated as soon as practical during the event. Otherwise, post-event consultation is appropriate. The initiation of the consultation is the responsibility of the unit administrator.

2. Do not draft fill engines that have surfactant foam mixes in tanks, directly from the stream channel.
3. A containment barrier will be constructed around all pumps and fuel containers utilized within 100 feet of the stream channel to prevent petroleum products from entering the stream. The containment barrier will be of sufficient size to contain all fuel being stored or used on site.
4. Do not dump engines filled with surfactant foam mixes within 600 feet of the stream channel.
5. Do not conduct retardant mixing operations within 300 feet of the stream channel.
6. Stream flow will not be impounded or diverted by mechanical or other means in order to facilitate extraction of water from the stream for fire suppression efforts.
7. The intake end of the draft hose will be screened to prevent entry of fish species. Screen opening size will be a maximum of 3/16 inch.
8. Before each fire assignment in the Elko District, all fire suppression equipment utilized to extract water from stream or spring sources (i.e. helicopter buckets, draft hoses and screens) will be thoroughly rinsed to remove mud and debris and disinfected with a chlorine solution (one part bleach to 32 parts water, or stronger). Rinsing equipment with disinfectant solutions will not occur within 100 feet of natural water sources (streams or springs).
9. Unless specifically identified as a restricted water source⁴, dipping water from streams currently occupied by LCT (including beaver ponds) by helicopter bucket is allowed only during initial attack operations (the first 24 hours following the initiation of suppression actions). Beyond initial attack, additional water needed to control and/or contain the fire will be obtained by drafting into portable dipping tanks or drafting directly into the helicopter bucket in accordance with the above standard operating procedures. Water levels in the pond or pool will be monitored continuously. Water extraction will not exceed the ability of the stream inflow to maintain water levels which exist at the time initial attack efforts began. If the water level drops below this predetermined level, all water removal will cease immediately until water levels are recharged.

⁴ The Humboldt Distinct Population Segment (DPS) Team will use the 1995 LCT Recovery Plan and the most recent data to develop a list and/or map which specifically identifies stream segments currently occupied by LCT where dipping water from streams (including beaver ponds) by helicopter is restricted due to specific meta-population concerns. This list and/or map will be reviewed annually and updated as necessary based on the most current species information.



10. For streams currently occupied by LCT, extraction of water from beaver ponds or pools will not be allowed if stream inflow is minimal (i.e. during drought situations) and extraction of water would lower the existing pond or pool level.
11. Fire control lines will not cross or terminate at the stream channel. Control lines will terminate at the edge of the riparian zone at a location determined appropriate to meet fire suppression objectives based on fire behavior, vegetation/fuel types, and fire fighter safety.
12. Access roads and/or fords will not be constructed across the stream channel.
13. New roads or mechanical fire control lines will not be constructed and existing roads will not be improved within 300 feet of the stream channel unless authorized by the Field Manager or the designated Field Manager representative.

REHABILITATION MEASURES:

1. An assessment of the impacts of fire and fire suppression activities to LCT habitat will be completed by an interdisciplinary team of resource specialists, including the Elko Field Office Fisheries Biologist and Hydrologist, representatives from the U.S. Fish and Wildlife Service, and representatives from the Nevada Division of Wildlife. Based on this assessment, appropriate rehabilitation measures will be identified consistent with Departmental Emergency Stabilization and Rehabilitation Handbook guidance, including but not limited to some or all of the following:
 - a. Close the affected watershed and/or stream channel to livestock grazing for one or more years to allow for recovery of riparian vegetation. The appropriate length of time for closure to livestock grazing will be determined on a site specific basis based on resource data, scientific principles, and experience. Site specific monitoring will determine when resource objectives have been achieved on specific burned areas. Site specific vegetative recovery objectives will be identified by the interdisciplinary review team and included in the Notice of Closure to Livestock Grazing issued in accordance with 43 CFR 4110.3-3.
 - b. Reconstruct damaged fences and/or construct new fences to ensure protection of the stream channel from grazing. In Wilderness Study Areas, fence construction and/or reconstruction will be in accordance with Interim Management Policy Guidelines.
 - c. Monitor stream and riparian habitats to allow for comparison of post-fire impacts to existing baseline information.
 - d. Where determined necessary by the interdisciplinary review team, install appropriate erosion control structures (i.e. erosion matting and/or straw bale structures, straw wattles, etc.) to mitigate overland flow effects to the stream channel.
 - e. Where determined necessary by the interdisciplinary review team, reseed and/or replant riparian/wetland areas with native plant species to facilitate re-establishment of perennial vegetation, minimize potential channel erosion, and allow for recovery of riparian functionality.



- f. Rehabilitate improved roads located within 300 feet of the stream channel as determined necessary to mitigate potential sedimentation into the stream channel.
- g. Implement appropriate integrated noxious weed control measures where determined necessary by the interdisciplinary review team and/or where determined appropriate through post-fire monitoring.
- h. Where determined necessary by the interdisciplinary review team, initiate temporary road closures for at least one year to protect and stabilize burned areas and associated watersheds. An interdisciplinary assessment will be conducted after the first year to determine if road closures are still needed.

Columbia spotted frog (*Rana luteiventris*)

Unless a threat to human life exists, the following standard operating procedures for species protection will apply to riparian and/or wetland habitats currently occupied by Columbia spotted frog (*Rana luteiventris*):

SUPPRESSION ACTIVITIES:

1. Avoid the application of retardant or foam within 300 feet of the stream channel or waterway¹.

Exceptions:

- When alternative line construction tactics are not available due to terrain constraints, congested area, life and property concerns or lack of ground personnel, it is acceptable to anchor the foam or retardant application to the waterway. When anchoring a retardant or foam line to a waterway, use the most accurate method of delivery in order to minimize placement of retardant or foam in the waterway (e.g., a helicopter rather than a heavy airtanker).
- Deviations from these guidelines are acceptable when life or property is threatened and the use of retardant or foam can be reasonably expected to alleviate the threat.
- When potential damage to natural resources outweighs possible loss of aquatic life, the unit administrator may approve a deviation from these guidelines².

If and when the Columbia spotted frog is listed as threatened or endangered, or proposed for listing, the following Emergency Consultation guidelines would apply:

¹ Aerial application and use of retardants and foams will be consistent with national policy guidelines established by the National Office of Fire and Aviation, as amended.

² This determination will be made on a case-by-case basis by the Field Manager or the designated Field Manager representative in consultation with the Fire Management Officer, Incident Commander, Resource Advisor, and Elko Field Office Fisheries Biologist through development of the Wildfire Situation Analysis.



Aerial application of retardant or foam outside 300 ft of a waterway is presumed to avoid adverse effects to aquatic species. If it is determined appropriate to apply retardant or surfactant foam within 300 feet of a waterway or stream channel based on one or more of the exceptions listed above, the unit administrator shall determine whether there have been any adverse effects to Columbia spotted frog.

If the action agency determines there were no adverse effects to Columbia spotted frog or their habitats, there is no additional requirement to consult with Fish and Wildlife Service (FWS).

If the action agency determines that there were adverse effects on Columbia spotted frog or their habitats then the action agency must consult with FWS, as required by 50 CFR 402.05 (Emergencies).

In the case of a long duration incident, emergency consultation should be initiated as soon as practical during the event. Otherwise, post-event consultation is appropriate. The initiation of the consultation is the responsibility of the unit administrator.

2. Do not draft fill engines that have surfactant foam mixes in tanks, directly from the stream channel or spring/pond.
3. A containment barrier will be constructed around all pumps and fuel containers utilized within 100 feet of the stream channel or spring/pond to prevent petroleum products from entering the stream. The containment barrier will be of sufficient size to contain all fuel being stored or used on site.
4. Do not dump engines filled with surfactant foam mixes within 600 feet of the stream channel or spring/pond.
5. Do not conduct retardant mixing operations within 300 feet of the stream channel or spring/pond.
6. Fire control lines will not cross or terminate at the stream channel or spring/pond. Control lines will terminate at the edge of the riparian zone at a location determined appropriate to meet fire suppression objectives based on fire behavior, vegetation/fuel types, and fire fighter safety.
7. Stream flow will not be impounded or diverted by mechanical or other means in order to facilitate extraction of water from the stream for fire suppression efforts.
8. Access roads and/or fords will not be constructed across the stream channel.
9. The intake end of the draft hose will be screened to prevent entry of spotted frog tadpoles. Screen opening size will be a maximum of 3/16 inch.
10. When drafting from beaver ponds or spring/ponds, drafting will occur only in open water areas free of dense aquatic vegetation where egg masses or spotted frog tad poles may concentrate.



11. Dipping water from beaver ponds or spring/ponds by helicopter bucket is allowed only during initial attack operations (the first 24 hours following the initiation of suppression actions). Beyond initial attack, additional water needed to control and/or contain the fire will be obtained by drafting into portable dipping tanks or drafting directly into the helicopter bucket in accordance with the above standard operating procedures. Water levels in the beaver pond or spring/pond will be monitored continuously. Water extraction will not exceed the ability of the stream or spring inflow to maintain water levels which exist at the time initial attack efforts began. If the water level drops below this predetermined level, all water removal will cease immediately until water levels are recharged.
12. Extraction of water from beaver ponds or spring/ponds will not be allowed if stream or spring inflow is minimal (i.e. during drought situations) and extraction of water would lower the existing pond level.
13. Before each fire assignment in the Elko District, all fire suppression equipment utilized to extract water from stream or spring sources (i.e. helicopter buckets, draft hoses and screens) will be thoroughly rinsed to remove mud and debris and disinfected with a chlorine solution (one part bleach to 32 parts water, or stronger). Rinsing equipment with disinfectant solutions will not occur within 100 feet of natural water sources (streams or springs).

Rehabilitation Measures:

1. An assessment of the impacts of fire and fire suppression activities to Columbia spotted frog habitat will be completed by an interdisciplinary team of resource specialists, including the Elko Field Office Fisheries Biologist and Hydrologist, representatives from the U.S. Fish and Wildlife Service, and representatives from the Nevada Division of Wildlife. Based on this assessment, appropriate rehabilitation measures will be identified consistent with Departmental Emergency Stabilization and Rehabilitation Handbook guidance, including but not limited to some or all of the following:
 - a. Close the affected habitat area to livestock grazing for one or more years to allow for recovery of riparian vegetation. The appropriate length of time for closure to livestock grazing will be determined on a site specific basis based on resource data, scientific principles, and experience. Site specific monitoring will determine when resource objectives have been achieved on specific burned areas. Site specific vegetative recovery objectives will be identified by the interdisciplinary review team and included in the Notice of Closure to Livestock Grazing issued in accordance with 43 CFR 4110.3-3.
 - b. Reconstruct damaged fences and/or construct new fences to ensure protection of the habitat area from grazing. In Wilderness Study Areas, fence construction and/or reconstruction will be in accordance with Interim Management Policy Guidelines.
 - c. Monitor stream channel or spring/pond habitats to allow for comparison of post-fire impacts to existing baseline information.



- d. Where determined necessary by the interdisciplinary review team, install appropriate erosion control structures (i.e. erosion matting and/or straw bale structures, straw wattles, etc.) to mitigate overland flow effects to the stream channel or spring/pond.
- e. Where determined necessary by the interdisciplinary review team, reseed and/or replant riparian/wetland areas with native plant species to facilitate re-establishment of perennial vegetation, minimize potential channel erosion, and allow for recovery of riparian functionality.
- f. Rehabilitate improved roads located within 300 feet of the habitat area as determined necessary to mitigate potential sedimentation.
- g. Implement appropriate integrated noxious weed control measures where determined necessary by the interdisciplinary review team and/or where determined appropriate through post-fire monitoring.
- h. Where determined necessary by the interdisciplinary review team, initiate temporary road closures for at least one year to protect and stabilize burned areas and associated watersheds. An interdisciplinary assessment will be conducted after the first year to determine if road closures are still needed.

Independence Valley speckled dace (*Rhinichthys osculus lethoporus*)

Unless a threat to human life or property exists, the following standard operating procedures for species protection will apply to the Independence Valley Warm Springs and ponds which supply water to outflow channels and marsh habitats occupied by the Independence Valley speckled dace (*Rhinichthys osculus lethoporus*):

The Independence Valley Warm Springs and wetlands habitat area is located entirely on private lands. The habitat area emerges from several seeps and springs along a 1-mile segment of the western edge of Independence Valley. The flows are impounded into two reservoirs. The upper, shallower reservoir overflows into the lower, deeper reservoir. The outflow from the lower reservoir flows through a channel before entering a marsh area. Several small shallow ponds exist in the marsh area. Spring heads exist both north and south of the impoundment reservoirs. Independence Valley speckled dace are not known to occur in the spring head areas or the two impoundment reservoirs. The dace are known to exist mostly in the marsh area and to a lesser extent in the outflow channel.

SUPPRESSION ACTIVITIES:

1. Avoid the application of retardant or foam within 300 feet of the stream channel or waterway¹.

¹ Aerial application and use of retardants and foams will be consistent with national policy guidelines established by the National Office of Fire and Aviation, as amended.



Exceptions:

- When alternative line construction tactics are not available due to terrain constraints, congested area, life and property concerns or lack of ground personnel, it is acceptable to anchor the foam or retardant application to the waterway. When anchoring a retardant or foam line to a waterway, use the most accurate method of delivery in order to minimize placement of retardant or foam in the waterway (e.g., a helicopter rather than a heavy airtanker).
- Deviations from these guidelines are acceptable when life or property is threatened and the use of retardant or foam can be reasonably expected to alleviate the threat.
- When potential damage to natural resources outweighs possible loss of aquatic life, the unit administrator may approve a deviation from these guidelines².

Emergency Consultation:

Aerial application of retardant or foam outside 300 ft of a waterway is presumed to avoid adverse effects to aquatic species. If it is determined appropriate to apply retardant or surfactant foam within 300 feet of a waterway or stream channel based on one or more of the exceptions listed above, the unit administrator shall determine whether there have been any adverse effects to Independence Valley speckled dace.

If the action agency determines there were no adverse effects to Independence Valley speckled dace or their habitats, there is no additional requirement to consult with Fish and Wildlife Service (FWS).

If the action agency determines that there were adverse effects on Independence Valley speckled dace or their habitats then the action agency must consult with FWS, as required by 50 CFR 402.05 (Emergencies).

In the case of a long duration incident, emergency consultation should be initiated as soon as practical during the event. Otherwise, post-event consultation is appropriate. The initiation of the consultation is the responsibility of the unit administrator.

2. Water needed for suppression activities will be extracted from the two impoundment ponds only. Water may be extracted by helicopter bucket dipping or draft filling. Before water extraction begins, a marker (a stake with a painted line, etc.) will be placed in the outflow drainage area below the lower impoundment pond, indicating the level of water flowing from the pond. Water level in the outflow will be monitored continuously. If the water level in the outflow drops below the designated level, all water removal will cease immediately until water levels return to normal levels.
3. Surfactant foam or retardants will not be used within 300 feet of the spring sources, impoundment ponds, outflow channel, or marsh/wetland areas.
4. Do not draft fill engines that have surfactant foam mixes in tanks directly from the spring source, impoundment ponds, outflow channel, or marsh/wetland areas.

² This determination will be made on a case-by-case basis by the Field Manager or the designated Field Manager representative in consultation with the Fire Management Officer, Incident Commander, Resource Advisor, and Elko Field Office Fisheries Biologist through development of the Wildfire Situation Analysis.



5. The intake end of the draft hose will be screened to prevent entry of fish species. Screen opening size will be a maximum of 3/16 inch.
6. A containment barrier will be constructed around all pumps and fuel containers utilized within 100 feet of the spring source, impoundment ponds, outflow channel, or marsh/wetland areas to prevent petroleum products from entering the stream. The containment barrier will be of sufficient size to contain all fuel being stored or used on site.
7. Do not dump engines filled with surfactant foam mixes within 600 feet of the spring sources, impoundment ponds, outflow channel, or marsh/wetland areas.
8. Do not conduct retardant mixing operations within 300 feet of the spring source, impoundment ponds, outflow channel, or marsh/wetland areas.
9. Fire control lines will not cross or terminate at the spring source, impoundment ponds, outflow channel, or marsh/wetland areas. Control lines will terminate at the edge of the riparian zone at a location determined appropriate to meet fire suppression objectives based on fire behavior, vegetation/fuel types, and fire fighter safety.
10. Before each fire assignment in the Elko District, all fire suppression equipment utilized to extract water from stream or spring sources (i.e. helicopter buckets, draft hoses and screens) will be thoroughly rinsed to remove mud and debris and disinfected with a chlorine solution (one part bleach to 32 parts water, or stronger). Rinsing equipment with disinfectant solutions will not occur within 100 feet of natural water sources (streams or springs).

REHABILITATION MEASURES:

The Independence Valley Warm Springs habitat area is located on private lands. A land exchange has been proposed that, if approved, would change ownership of these lands from private to public. Until ownership changes, rehabilitation measures on private lands are restricted to addressing damages due to fire suppression activities. Therefore, the following rehabilitation measures would apply, assuming private ownership of the Independence Valley Warm Springs habitat area.

1. An assessment of the impacts of fire suppression activities to Independence Valley speckled dace habitat (the Independence Valley Warm Springs wetlands is located on private lands) will be completed by an interdisciplinary team of resource specialists, including the Elko Field Office Fisheries Biologist and Hydrologist, representatives from the U.S. Fish and Wildlife Service, and representatives from the Nevada Division of Wildlife. Based on this assessment, appropriate rehabilitation measures will be identified consistent with Departmental Emergency Stabilization and Rehabilitation Handbook guidance, including but not limited to some or all of the following:
 - a. Reconstruct fences or other structures damaged by suppression activities.
 - b. Rehabilitate roads improved or created by suppression activities located within 300 feet of the habitat area as determined necessary to mitigate potential sedimentation into the habitat area.



- c. Implement appropriate integrated noxious weed control measures in those areas damaged during fire suppression activities where determined necessary by the interdisciplinary review team and/or where determined appropriate through post-fire monitoring.
 - d. Re-seed or replant riparian or wetland areas damaged by suppression activities with native species as determined necessary by the interdisciplinary review team to facilitate re-establishment of perennial vegetation.
2. In addition to the above, the following rehabilitation measures would also be considered by the interdisciplinary review team charged with assessing the impacts of fire and fire suppression activities, should ownership of the Independence Valley Warm Springs habitat area change from private to public ownership:
- a. Close the affected habitat area to livestock grazing for one or more years to allow for recovery of riparian/wetland vegetation. The appropriate length of time for closure to livestock grazing will be determined on a site specific basis based on resource data, scientific principles, and experience. Site specific monitoring will determine when resource objectives have been achieved on specific burned areas. Site specific vegetative recovery objectives will be identified by the interdisciplinary review team and included in the Notice of Closure to Livestock Grazing issued in accordance with 43 CFR 4110.3-3.
 - b. Reconstruct damaged fences and/or construct new fences to ensure protection of the habitat area from grazing.
 - c. Monitor riparian/wetland habitats to allow for comparison of post-fire impacts to existing baseline information.
 - d. Where determined necessary by the interdisciplinary review team, install appropriate erosion control structures (i.e. erosion matting and/or straw bale structures, straw wattles, etc.) to mitigate overland flow effects.
 - e. Where determined necessary by the interdisciplinary review team, reseed and/or replant riparian/wetland areas with native plant species to facilitate re-establishment of perennial vegetation, minimize potential effects of erosion, and allow for recovery of riparian/wetland functionality.
 - f. Implement appropriate integrated noxious weed control measures where determined necessary by the interdisciplinary review team and/or where determined appropriate through post-fire monitoring.



Clover Valley speckled dace (*Rhinichthys osculus oligoporus*)

Unless a threat to human life exists, the following standard operating procedures for species protection will apply to spring/pond areas occupied by Clover Valley speckled dace (*Rhinichthys osculus oligoporus*):

Clover Valley speckled dace are known to exist in three separate spring/pond habitats all located on private lands in Clover Valley. All three habitat areas are comprised of a riparian/wetland complex consisting of a spring source, one or more impoundment ponds, and one or more outflow channels. Dace are known to inhabit the spring source areas, impoundment pond(s) and/or outflow channels.

SUPPRESSION ACTIVITIES:

1. Avoid the application of retardant or foam within 300 feet of the stream channel or waterway¹.

Exceptions:

- When alternative line construction tactics are not available due to terrain constraints, congested area, life and property concerns or lack of ground personnel, it is acceptable to anchor the foam or retardant application to the waterway. When anchoring a retardant or foam line to a waterway, use the most accurate method of delivery in order to minimize placement of retardant or foam in the waterway (e.g., a helicopter rather than a heavy airtanker).
- Deviations from these guidelines are acceptable when life or property is threatened and the use of retardant or foam can be reasonably expected to alleviate the threat.
- When potential damage to natural resources outweighs possible loss of aquatic life, the unit administrator may approve a deviation from these guidelines².

Emergency Consultation:

Aerial application of retardant or foam outside 300 ft of a waterway is presumed to avoid adverse effects to aquatic species. If it is determined appropriate to apply retardant or surfactant foam within 300 feet of a waterway or stream channel based on one or more of the exceptions listed above, the unit administrator shall determine whether there have been any adverse effects to Clover Valley speckled dace.

If the action agency determines there were no adverse effects to Clover Valley speckled dace or their habitats, there is no additional requirement to consult with Fish and Wildlife Service (FWS).

¹ Aerial application and use of retardants and foams will be consistent with national policy guidelines established by the National Office of Fire and Aviation, as amended.

² This determination will be made on a case-by-case basis by the Field Manager or the designated Field Manager representative in consultation with the Fire Management Officer, Incident Commander, Resource Advisor, and Elko Field Office Fisheries Biologist through development of the Wildfire Situation Analysis.



If the action agency determines that there were adverse effects on Clover Valley speckled dace or their habitats then the action agency must consult with FWS, as required by 50 CFR 402.05 (Emergencies).

In the case of a long duration incident, emergency consultation should be initiated as soon as practical during the event. Otherwise, post-event consultation is appropriate. The initiation of the consultation is the responsibility of the unit administrator.

2. Dipping water from the impoundment ponds by helicopter bucket is allowed only during initial attack operations (the first 24 hours following the initiation of suppression actions). Beyond initial attack, additional water needed to control and contain the fire will be obtained by drafting from the pond into a portable dipping tank or drafting from the pond directly into the helicopter bucket.
3. Before drafting begins, a marker (a stake with a painted line, etc.) will be placed in the outflow drainage area indicating the level of water flowing from the pond. Water level in the outflow will be monitored continuously. If the water level in the outflow drops below the designated level, all water removal will cease immediately until water levels return to normal levels.
4. The intake end of the draft hose will be screened to prevent entry of fish species. Screen opening size will be a maximum of 3/16 inch.
5. A containment barrier will be constructed around all pumps and fuel containers utilized within 100 feet of the spring source, impoundment ponds, or outflow channel to prevent petroleum products from entering the water. The containment barrier will be of sufficient size to contain all fuel being stored or used on site.
6. Do not draft fill engines that have surfactant foam mixes in tanks directly from the spring source, impoundment ponds or outflow channel.
7. Do not dump engines filled with foam or surfactant mixes within 600 feet of the spring source, impoundment ponds, or outflow channel.
8. Do not conduct retardant mixing operations within 300 feet of the spring source, impoundment ponds, or outflow channel.
9. Fire control lines will not cross or terminate at the spring source, impoundment ponds, or outflow channel. Control lines will terminate at the edge of the riparian zone at a location determined appropriate to meet fire suppression objectives based on fire behavior, vegetation/fuel types, and fire fighter safety.
10. Before each fire assignment in the Elko District, all fire suppression equipment utilized to extract water from stream or spring sources (i.e. helicopter buckets, draft hoses and screens) will be thoroughly rinsed to remove mud and debris and disinfected with a chlorine solution (one part bleach to 32 parts water, or stronger). Rinsing equipment with disinfectant solutions will not occur within 100 feet of natural water sources (streams or springs).



REHABILITATION MEASURES:

All known spring/pond areas providing habitat for Clover Valley speckled dace are located on private lands. Therefore, rehabilitation measures would be limited to addressing those impacts directly related to fire suppression activities.

1. An assessment of the impacts of fire suppression activities to Clover Valley speckled dace habitat will be completed by an interdisciplinary team of resource specialists, including the Elko Field Office Fisheries Biologist and Hydrologist, representatives from the U.S. Fish and Wildlife Service, and representatives from the Nevada Division of Wildlife. Based on this assessment, appropriate rehabilitation measures will be identified consistent with Departmental Emergency Stabilization and Rehabilitation Handbook guidance, including but not limited to some or all of the following:
 - a. Reconstruct fences or other structures damaged by suppression activities.
 - b. Rehabilitate roads improved or created by suppression activities located within 300 feet of the habitat area as determined necessary to mitigate potential sedimentation into the habitat area.
 - c. Implement appropriate integrated noxious weed control measures in those areas damaged during fire suppression activities where determined necessary by the interdisciplinary review team and/or where determined appropriate through post-fire monitoring.
 - d. Re-seed or replant riparian or wetland areas damaged by suppression activities with native plant species as determined necessary by the interdisciplinary review team to facilitate re-establishment of perennial vegetation, minimize potential effects of erosion, and allow for recovery of riparian/wetland functionality.

PART B – FIRE MANAGEMENT GUIDELINES FOR SAGE GROUSE

The *Management Guidelines for Sage Grouse and Sagebrush Ecosystems in Nevada, October 2000*, recommend the following guidelines for Sage Grouse that are pertinent to fire management.

Vegetation Treatment

1. Consider the habitat needs of sage grouse when planning vegetation treatments and maintenance projects.
2. On all vegetation treatments, manage livestock for the long-term health of the vegetation community and the attainment of the treatment objectives.
3. Vegetation treatments in areas highly susceptible to, or currently dominated by, cheatgrass should be accompanied by rehabilitation. Rehabilitation should include site preparation techniques and seed mixtures appropriate for the soils, climate, and landform of the area.



4. Use appropriate vegetation treatment techniques to remove junipers/conifers that have invaded sage grouse habitat. Whenever possible employ vegetal control techniques that are least disruptive to the stand of sagebrush.
5. Take appropriate precautions to minimize the possibility that noxious weed eradication activities directly impact sage grouse populations or affect sagebrush stands.
6. Implement effective monitoring plans to determine the effectiveness of vegetation treatments.
7. Develop and maintain cumulative records for all vegetation treatment projects to determine and evaluate site specific and cumulative impacts to sage grouse habitats and identify best management practices for successful vegetation treatments.
8. Evaluate recent prescribed burns and wildfires to determine if rehabilitation is necessary to achieve habitat management objectives.
9. Create sites suitable for leks where current leks are compromised by roads and other facilities.
10. Use vegetation treatments to maintain or improve known habitats. Avoid vegetation treatments in known habitats when birds are present.
11. When native plant species adapted to the site are available in sufficient quantities, and it is economically and biologically feasible to establish or increase them to meet management objectives, emphasize them over non-native species.

Fire Management

1. Review district fire management plans annually, incorporate new sage grouse habitat information, and distribute to fire dispatchers for initial attack planning.
2. Where practical, locate fire camps, staging areas, and helibases at least 1 km. (0.6 mile) away from known sage grouse habitat. Also, as part of any preparedness planning process, identify the possible location of these temporary facilities on a map.
3. Ensure known sage grouse habitat information is incorporated into each Wildfire Situation Analysis to assist in determining appropriate suppression plans and prioritizing fires during multiple ignition episodes.
4. Minimize the amount of sage grouse habitat burned:
5. Give wildfire suppression in sage grouse habitat appropriate consideration within the framework of the Federal Wildland Fire Policy (human life and safety as the first priority, with property and natural resources as equal second priorities) (USDI and USDA 1995).
6. Use direct attack when it is safe and effective.



7. Retain, if possible, unburned areas (including interior islands and patches between roads and the fire perimeter) of sage grouse habitat.
8. When modifying water sources for the temporary purpose of fire suppression, ensure that all impacts are reclaimed as soon as practicable following fire suppression activities.

Emergency Fire Rehabilitation

1. Evaluate all wildfires as soon as possible to determine if reseedling is necessary to recover ecological processes and achieve habitat objectives appropriate for the biological needs of sage grouse and prevent the invasion of noxious weeds or other exotic invasive species.
2. Assure that long-term wildfire rehabilitation objectives are consistent with the potential natural vegetation community.
3. Align long-term objectives for seedlings with the habitat needs of sage grouse. Seedlings should include an appropriate mix of grasses, forbs, and shrubs, including sagebrush, that will recover the ecological processes and habitat features of the potential natural vegetation. Emphasize native plant species when these species are adapted to the site, are available in sufficient quantities, and are economically and biologically feasible.
4. Reseed all burned lands occurring in sage grouse habitat within 1 year unless natural recovery of the native plant community is expected.

PART C – SOPS FOR FIRE MANAGEMENT IN ASPEN AND COTTONWOOD STANDS

Fire Management/Treatments:

1. Treatments that impact any stand should only be implemented if protective measures (such as exclosures, or deferred grazing) have been put in place first to protect the regeneration.
2. The demise of even a single aspen clone should not be an option, especially since so much has been lost already (estimated 30 to 50 percent aspen clone reduction in many areas of this region).
3. Minimize the amount of aspen/cottonwood habitat burned.
4. Retain unburned aspen/cottonwood habitat (including interior islands and patches) unless there are compelling safety, resource protection, or control objectives at risk.
5. Use mechanical equipment sparingly within aspen/cottonwood stands. Minimize ground disturbance to protect the root systems (many roots are only a few inches below the ground surface). Dozers should not be utilized within stands.
6. Aspen stands containing a high degree of disease (> 80 percent infected) should be treated with fire to completely kill the overstory.



7. Severely deteriorated stands containing high crown coverage of competing shrubs/grasses should be spot treated with fire to reduce competition for the aspen regeneration. Measures need to be taken to protect the remaining trees from being scorched from the fire.

Emergency Fire Rehabilitation/Post Fire Treatments:

1. Aspen/cottonwood areas that have been burned should have the livestock removed immediately (aspen starts to regenerate 2 – 4 weeks after being burned) and be totally rested until the aspen suckers have reached an average height of at least seven (7) feet.
2. Fence or otherwise protect aspen/cottonwood sites that are in “high risk” areas (easily accessible riparian settings, loafing areas, or other areas where livestock tend to congregate).
3. Falling operations to reduce the density of dead standing trees should only be implemented within the first two weeks following fire. Any ground disturbing actions within the stands following that time period would be detrimental to regeneration.

PART D – SOPS FOR CULTURAL RESOURCE PROTECTION

Notice: All information related to cultural or archaeological resources, including location of these resources, type or quantity of resources, and value of resources, is proprietary information. Persons accessing or issuing this information are subject to applicable Federal and state laws, as well as Bureau policies and regulations. Any misuses of this proprietary information will subject the involved parties to penalties associated with these laws, regulations and policies.

1. Upon receiving specific locational information on a new wildland fire incident, dispatch will consult the ***Elko Field Office Cultural Alert Map*** of known highly sensitive cultural resources (provided and updated by the cultural resource team), and relay the information regarding any special procedures to the Incident Commander. The Incident Commander will assume responsibility for this proprietary information, and will act in a manner such as to protect the cultural sites and information, subject to policy, regulation and law. Closed circuit communication (i.e. telephone) will be used whenever possible when relaying this information.
2. If the incident is in an area identified on the map as sensitive due to the presence of significance cultural resources, a BLM field office archaeologist will be notified immediately. **NOTE: The Cultural Alert Map contains only a tiny fraction of the known significant cultural resources in the District. The fact that a fire incident falls outside the sensitive areas (A-2 polygons) on the alert map does not signify the absence of important cultural resources or that cultural resources are not a concern.**
3. Should a District Resource Advisor be assigned to an incident, he or she will act as the Field Manager’s representative to the Incident Commander, and will ensure that any cultural resource concerns, as well as other resource concerns, are addressed. It is the responsibility of the Resource Advisor to contact a District Archaeologist regarding



cultural resources in the area of the incident (preferably prior to leaving the office) and updating that information as situations change.

4. A District Archaeologist will be notified if earth-moving equipment (i.e. bulldozers, road graders, etc.) is ordered for suppression of any fire on the District. A District Archaeologist will be responsible for recommending assignment of an archaeologist or DAT (district archaeological technician) to the incident to mitigate any potential cultural resource damage. The assigned archaeologist/DAT will report to the Resource Advisor or Incident Commander.
5. When an area is known to contain significant cultural resources and life and property are not imperiled, fire suppression methods other than those that result in substantial ground-disturbance are preferred.
6. Wildland Fire Use Areas ignited by natural sources may be allowed to burn without an area-specific prescribed fire management plan that has been through review by the State Historic Preservation Officer if:
 - a. a District archaeologist with concurrence by the appropriate Field manager determines that there is a low probability of discovering vulnerable archaeological sites within the proposed area;
 - b. there is written documentation that the area has burned in the last 50 years at a sufficient intensity so that there is a low probability that vulnerable resources could have survived the fire;
 - c. the proposed area has been previously inventoried and no historic properties were identified; or
 - d. the proposed fire is in an area that has been inventoried for cultural resources and will be managed within prescription limits that protect known historic properties from the fire. This can be by hand-constructing lines, foam wetting agents, fire shelter fabric or other effective methods.
7. Any damage to cultural resources resulting from suppression activities will be addressed in the Resource Advisor's report, and the report will contain proposed mitigation or rehabilitation measures.

PART E – SOPS FOR FIRE MANAGEMENT IN MINING AREAS

1. Let the fire burn across closed or reclaimed mine facilities. These mine facilities include, but are not limited to, the following:
 - heap leach pad
 - tailing impoundment
 - attenuation field
 - constructed wetlands
 - bioreactor
 - cement foundation
 - diversion ditches



- hydrocarbon bioremediation pads
 - leach fields
2. It is better to let the fire burn through or across the reclaimed mine facilities due to the cost of repairing the damage created by the fire suppression activities. Repair costs to reconstruct the facilities can result in thousands to millions of dollars. Damages to the closed or reclaimed mine facilities include, but are not limited to, the following:
 - Digging up liners (plastic or clay), pipes, tanks, buried concrete foundation
 - Destroying or damaging liners (plastic or clay) by causing them to leak as a result of either blading or driving across them
 - Getting stuck in wetlands, bioreactors, leach fields, attenuation fields, etc., which could result in broken pipes, damaged liners, acid mine drainage
 - Breaching or destroying the integrity of constructed dams resulting in instability
 - Driving or blading across some constructed slopes may result in instability and slope failure, and erosion problems
 3. Consequences of destroying or damaging the closed or reclaimed mine facilities could result in problems such as:
 - Acid mine drainage
 - Erosion
 - Slope failure
 - Degradation of waters of the United States
 - Creating a superfund site
 4. Hazardous water quality issues that may be encounter at inactive, closed or abandoned mine sites are:
 - waters latent with chemicals such as (i.e. cyanide, hydrogen peroxide, caros acid, acidic waters, etc)
 - acid mine drainage (water would have a pH range of 1 to 4.5; the closer the pH is to 1 the more hazardous)
 - Interaction between people and these water quality issues could result in serious health problems, such as (poisoning, burn the skin, rashes, etc.)
 - Interaction between equipment and these water quality issues could result in equipment damage or failure to work.

Fire suppression activities in the vicinity of the Valmy Powerplant.

1. It is critical to prevent the wooden structures for the powerlines to the pump houses from burning. These powerlines feed electricity to the wells for the Valmy Powerplant. Most powerlines follow roads.
2. It is imperative that a dozer or equipment constructing control lines not damage the cement manholes. These manholes provide access to the pipelines that carry water to the Valmy Powerplant. Most pipelines follow roads.

