

**UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE**

RECORD OF DECISION

LONG DRAW RESERVOIR SPECIAL USE AUTHORIZATION

**Arapaho and Roosevelt National Forests and Pawnee National Grassland
Grand and Larimer Counties, Colorado**

I have prepared this Record of Decision (ROD) pursuant to the March, 2009 Final Environmental Impact Statement (FEIS) entitled Long Draw Reservoir Special Use Authorization. That FEIS documented an interagency environmental analysis of a proposed action to reauthorize that portion of Long Draw Reservoir built in 1974, which enlarged its original capacity to 10,800 acre feet. The original reservoir stored approximately 4,400 acre feet of water, and it and the Grand Ditch were authorized in 1927 under the terms and conditions of easements issued by the Department of the Interior, pursuant to the authority of the Act of March 3, 1891. Those existing easements are not affected by this decision.

The expanded area of the reservoir had previously been authorized by a series of Forest Service-issued special use permits, the last of which expired on January 31, 1994. The use, operation, and maintenance of this reservoir have been occurring since then in a manner consistent with the terms and conditions of that expired permit. The FEIS documents the outcome of an environmental analysis that was conducted in consideration of reauthorizing the expanded portion of the reservoir, in a manner consistent with existing laws and regulations governing water development uses on National Forest System (NFS) lands.

The Forest Service is the lead agency in this analysis and in writing the FEIS, primarily because Long Draw Reservoir is located on NFS lands. The National Park Service (NPS) is a cooperating agency because the ongoing operation of Long Draw Reservoir is impacting federal lands and resources immediately downstream from the dam; lands and resources situated within and managed by Rocky Mountain National Park (the Park). In addition, two alternatives considered in the FEIS propose actions within the Park. The NPS will be issuing a ROD pursuant to the FEIS to approve and authorize activities that will occur on lands within the Park as a result of this decision.

This ROD includes: a description of the background of the project; a statement of the decision made including key actions; monitoring and mitigating measures to minimize environmental impacts; the rationale for the decision; an overview of public involvement and agency consultation in the decision-making process; a description of other alternatives considered; findings required by other laws; and, a description of the environmentally preferred alternative.

PROJECT BACKGROUND

Long Draw Reservoir is located approximately 35 miles west of Fort Collins in Larimer County (T. 6 N., R. 75 W., sections 10, 11, 15 and 16, 6th P.M.). Access to Long Draw Reservoir is by U.S. Highway 287 and State Highway 14 from Fort Collins for approximately 60 miles along the Cache la Poudre River to the junction of Highway 14 and the Long Draw Road (National Forest System Road 156). The reservoir is located approximately 9.5 miles southeast on the Long Draw Road. Long Draw Reservoir is located on La Poudre Pass Creek (also known as Long Draw Creek), a tributary to the Cache la Poudre River at an elevation of 10,100 feet near the Continental Divide. La Poudre Pass Creek, both above and below the reservoir, is situated within the Park. The reservoir itself occupies NFS land within the boundaries of the Roosevelt National Forest (Forest). The Cache la Poudre River downstream of the confluence with La Poudre Pass Creek is also on NFS land.

Long Draw Reservoir has a storage capacity of 10,800 acre feet and is owned and operated by The Water Supply and Storage Company (WSSC, also referred to as the permittee). The reservoir's primary function is to store water received from the Grand Ditch (also known as the Grand River Ditch), a trans-basin diversion that diverts waters from tributary headwaters of the Colorado River in the Park and the Arapaho National Forest. The Grand Ditch transports water across the Continental Divide over La Poudre Pass into La Poudre Pass Creek, then down La Poudre Pass Creek for about one mile to the reservoir. Water released from the reservoir flows from the dam down the creek for approximately an additional 2.5 miles to the confluence with the Cache La Poudre River, and then down the river to diversions near the mouth of the canyon where its water is again diverted for storage and irrigation.

The Grand Ditch has been in operation since the late 1890's, prior to the 1915 establishment of both the Park and the 1910 establishment of the Colorado National Forest (which was subsequently named the Roosevelt National Forest). The original reservoir and the Grand Ditch were authorized in 1927 through Department of Interior-issued easements that are still in effect. The original construction of the Long Draw Reservoir was completed in 1929, at which time it held about 4,400 acre feet of water and inundated about 263 acres. Historical documents indicate that the reservoir operations at that time allowed water to pass into La Poudre Pass Creek below the dam at rates and in quantities that were sufficient to sustain a fishery during the winter months. Historical records also indicate that peak releases following the original construction of the reservoir generally did not exceed flows of 200 cubic feet per second.

The reservoir was enlarged in 1974 to its existing capacity of 10,800 acre feet. The enlargement inundated an additional 53 acres of NFS land. Enlargement of the reservoir was completed prior to the passage of the Federal Land Policy and Management Act of 1976 (FLPMA). At the same time as the reservoir enlargement, modifications were made to the Grand Ditch that increased the volume of water delivered to Long Draw Reservoir.

During the environmental analysis for the 1974 Long Draw Reservoir enlargement, the Forest Service had recommended that native flows from La Poudre Pass Creek above the reservoir be allowed to pass through the dam during the winter months to minimize impacts to fisheries below the reservoir. However, in place of that recommendation, an 84 acre permanent

conservation pool (646 acre feet) was constructed in conjunction with the expansion, as a means of complying with the requirements of the Fish and Wildlife Coordination Act and under the authority of the Small Reclamation Projects Act. This conservation pool was intended to do several things. First, it would serve as mitigation for the stream fishery that was lost through inundation from the expansion of the reservoir. Second, it was expected that this pool would provide seepage through the dam. It was anticipated that this seepage would provide flow below the reservoir in La Poudre Pass Creek during the winter months to minimize the adverse impacts to fisheries below the reservoir. This seepage, and consequently the fisheries benefit, has not occurred as expected.

The enlarged facility was initially authorized by a series of Forest Service issued temporary special use permits until 1980, when a ten year special use permit was issued. This permit was amended in 1981; it expired at the end of 1991, and was subsequently extended through January 31, 1994.

In 1993, the Forest Service initiated preparation of an environmental impact statement (EIS) for re-issuance of a land use authorization. This process was completed in July 1994 and resulted in a decision to issue a 50-year easement to authorize the continued use, operation, and maintenance of the expanded portion of Long Draw Reservoir. That decision was challenged in a lawsuit against the U.S. Department of Agriculture (*Trout Unlimited v. USDA*, 96-WY-2686-WD). In April 2004, the U.S. District Court for the District of Colorado reversed the 1994 decision, finding that it failed to comply with the provisions of FLPMA. In particular, the court found that the decision was inconsistent with Section 505 of FLPMA, which requires that all authorizations for the types of uses and occupancies of NFS lands authorized by that Act be conditioned in a manner to minimize damage to scenic and esthetic values and fish and wildlife habitat, and to otherwise protect the environment consistent with other requirements of law and regulation.

After the District Court's 2004 decision, the 1980 special use permit for the occupancy and use of Long Draw Reservoir became the controlling authorization for the current and ongoing use, operation, and maintenance of this reservoir enlargement. WSSC has in fact been operating Long Draw Reservoir in a manner consistent with the terms and conditions of that now-expired 1980 permit. A new land use authorization will be needed if the Forest Service decides to approve the continuation of this long-existing use and occupancy of NFS land.

The 2004 court decision prompted the Forest Service to initiate a new environmental analysis to reevaluate the environmental effects occurring due to the current use and operation of this reservoir. The analysis was designed to serve as the basis for deciding whether to reauthorize the reservoir enlargement and, if so, to also identify terms and conditions that would be needed in the issuance of a new special use authorization to assure compliance with Section 505 of FLPMA, and other applicable laws and regulations.

DECISION

I have decided to select Alternative 3 as described in the March 2009, Final Environmental Impact Statement (FEIS) for Long Draw Reservoir Special Use Authorization. Alternative 3 meets the purpose and need for this project and addresses key issues as described in the FEIS.

Key provisions of the selected alternative include:

- Design, construction and testing of barriers (some temporary and some permanent) to prevent movement of non-native fish into streams where they have been removed;
- Removal of non-native fish and stocking of greenback cutthroat trout creating a metapopulation of greenback cutthroat trout in approximately 37 miles of stream habitat and 106 acres of lake habitat to mitigate the adverse impacts in La Poudre Pass Creek resulting from the operation and maintenance of Long Draw dam and reservoir. A metapopulation is a large population that consists of several smaller populations linked together by immigration and emigration through connected habitat.

In addition to native trout restoration, I have decided to require installation of a dam failure early warning system to provide around the clock monitoring of the dam. Analysis of the installation of such a system occurred between the draft and final EIS in response to the key issue of safety. Such a system addresses the concern that access to the reservoir and dam during the winter is restricted by snowfall and avalanche activity. Given the length and elevation gain of the Long Draw Road, the road could be inaccessible during an emergency, even if regularly plowed. In addition, even if the road was open it would be unlikely that equipment could be mobilized to the site in a time frame that would make any real difference in terms of abating an emergency. Given the potential consequences of a dam failure to life and property, I am requiring the installation of an early warning system.

I am authorizing the issuance of a 30 year easement for the operation and maintenance of the expanded portion of Long Draw Reservoir with terms and conditions that require the holder to participate in native cutthroat trout conservation projects and a long-term recovery program in the upper Cache la Poudre River basin as described in this ROD and the FEIS.

Project Phases

Native cutthroat trout restoration will be phased in over approximately fifteen years. Data will be collected in support of implementation including flow, water quality, presence of non-target aquatic species such as amphibians, and site information needed to develop a detailed implementation plan. Implementation will initially focus on constructing and testing fish barriers followed by removal of non-native fish. Upon completion of these tasks, the establishment of greenback cutthroat trout populations will occur through stocking. After establishment of isolated populations throughout the project area, the recovery process will focus on connecting the populations through the removal of barriers. A proposed timeline for the phases can be found on page 23 of the FEIS. This timeline may be modified as determined by monitoring and other considerations.

Barrier Design, Construction and Testing

Barriers will be designed for each specific site and to provide effective prevention of upstream movement of fish. Barriers needed for this alternative are the same as those described on page 25 of the FEIS and displayed in Figure 2-6 on page 31. All of the barriers are located below the reservoir except for the barrier on the Grand Ditch, which is above the reservoir.

Barrier construction will generally consist of a waterfall type barrier that will span the stream channel. All barriers except the Grand Ditch barrier will be designed to appear natural to the degree possible and will be designed and constructed so they will not impound water flow. To decrease the risk of fish kills associated with high pH, temporary water diversions will be used when building or enhancing a barrier if concrete is used. Rocks for barrier construction will be taken from pre-approved sites to avoid adverse effects to sensitive archeological sites, exotic vegetation, and threatened, endangered or sensitive species on the terraces next to the streams. Ground disturbance that could lead to erosion will be avoided and silt fences will be used if needed to minimize soil movement. Areas disturbed during barrier construction or enhancement will be revegetated with desirable, native vegetation.

The majority of the streams within the project area flow through land which has been designated as wilderness and/or land within the Park. Additionally, the Cache la Poudre River is a designated Wild and Scenic River. Barriers need to be compatible with both Wilderness and Wild and Scenic River values and therefore all of them, except the barrier on the Grand Ditch, will be designed with the following considerations:

- Barriers will mimic normal, naturally occurring conditions.
- Barriers will not create unusual hazards or substantially interfere with existing or reasonably anticipated recreational use of the river.
- Barriers will not prevent naturally occurring events such as bank erosion, channel shifting, island building, and bed load or debris movement.
- Construction materials are kept natural in appearance.
- Materials are placed in locations, positions, and quantities which mimic natural conditions.
- Anchoring materials, cables, rebar, etc., are installed in such a manner as to be visually acceptable.

All barriers will be tested for at least one monitoring season to ensure they are effective in preventing upstream fish movement. Monitoring could entail fish tagging/marketing and electro-fishing to monitor movement past subject barriers or other more technologically advanced methods that may be available. The permanent barrier on the mainstem of the Cache la Poudre is the most critical barrier to the long-term success of a pure greenback cutthroat trout metapopulation; therefore, the effectiveness of this barrier will be tested for at least two monitoring seasons.

Project Area

The project area for Alternative 3 includes the dam and reservoir being authorized, as well as the damaged reaches of La Poudre Pass Creek and streams that connect to these areas. The project area includes streams within Rocky Mountain National Park above a substantial and existing natural barrier on the main stem of the Cache la Poudre River. The use of this existing natural barrier provides the most efficient scale for this restoration effort as it eliminates the need for construction and maintenance of a constructed barrier and provides for upstream movement of fish above the barrier into sufficient habitat for a fully functioning metapopulation. In addition, use of a natural barrier reduces the risk of failure often associated with constructed barriers, especially in the presence of high flows such as those experienced in La Poudre Pass Creek and the Cache la Poudre as the result of the combination of natural flows and flows augmented by the operations of the dam and reservoir.

Removal of Non-Native Fish

Treatments for the removal of non-native fish on about 54 miles of streams and 106 acres of lake will recover about 37 miles of useable stream habitat and 106 lake acres for the metapopulation. Removal of non-native fish will be through the use of piscicides. There are currently two piscicides (rotenone and antimycin) approved by the Environmental Protection Agency (EPA) for fish removal. Potassium permanganate (KMnO₄) is a strong oxidizing agent that will be used to neutralize either chemical.

Where present, removal of beaver and beaver dams will occur prior to chemical treatments to facilitate fish removal. If feasible, beavers will be live trapped and moved to other suitable locations prior to removal of dams. Beaver dams will be removed through explosives or with the use of hand tools. Beaver will be reintroduced in cooperation with Colorado Division of Wildlife (CDOW) following successful restoration of native fish.

Prior to beaver dam removal and fish removal via chemical application, surveys for the presence of egg masses, tadpoles and adults of sensitive amphibian species such as boreal toad, northern leopard frog or wood frog will be conducted around suitable habitat. If these species are located, actions will be taken in coordination with CDOW and the Park to minimize impacts to these species.

Fish killed by chemical treatments will be disposed of by distributing on the banks or removed from the site via pack animals. Disposal methods will be determined at the time of implementation considering public use of the site, amount of fish killed, abundance of predators and time of year.

Following chemical treatment, sites will be sampled for at least two monitoring seasons to ensure that fish removal was fully successful. If non-native fish are found, subsequent treatments and monitoring for two seasons will be required until it is determined that removal is successful.

Fish Stocking

Two sub-watersheds in the Park (Hague, Chapin/Upper Poudre) and one on the National Forest (Corral Creek) will be stocked with native trout after monitoring indicates the streams are free of non-native fish. In addition, Long Draw Reservoir will be stocked with native trout. Streams that will be treated but will not be stocked include Baker Gulch, Neota Creek, Willow Creek, and Corral Creek below the temporary barrier, the mainstem Cache la Poudre River below the temporary barrier, Hague Creek below the temporary barrier and La Poudre Pass Creek below the reservoir. All other streams with useable habitat will be stocked with greenback cutthroat trout. Baker Gulch will not be stocked to prevent the movement of greenback cutthroat trout into the Colorado River basin. Willow Creek and Corral Creek below the temporary barrier will not be stocked but rather will be allowed to populate through movement of fish from other recovered streams to demonstrate the effectiveness of the metapopulation.

Barrier Removal

Isolated populations of native trout above the temporary barriers will be considered established when the Greenback Cutthroat Trout Recovery Plan definition of a stable and established population is met. Under the current recovery plan, these conditions are:

- No non-native trout found in the subject stream(s);
- Successful recruitment of cutthroat trout two out of five years as determined by monitoring.
- A minimum of 500 breeding adults in the subject stream(s);
- A minimum of 22 kilograms per hectare (approximately 20 lbs/acre) of fish.

Temporary barriers will be removed after establishment of isolated populations of greenback cutthroat trout above these barriers in all of the subwatersheds that are stocked. The streams will be connected to provide the advantages of large, contiguous, connected habitats. Removal of barriers will consist of blasting or hammering out the constructed barrier, thereby reducing the height of the jump to facilitate upstream movement of fish. Jump pools below barrier sites will be enhanced to provide adequate pool depth for movement. Banks will be re-contoured and re-vegetated.

Metapopulation Establishment

A metapopulation is defined as a group of individual populations of the same species that are geographically close enough to interact with each other but in an area large enough to ensure species persistence after a stochastic (or random) event. The individual populations may exist in two types of areas, source areas or sink areas. Source areas contain high quality habitat that typically allow the population to increase. Sink areas consist of low quality habitat that over time would not allow an individual population to survive. Continued use of sink habitats can occur when excess population from a source area moves to a sink.

This decision will establish a metapopulation of greenback cutthroat trout within an estimated 37 miles of streams. The metapopulation will be considered established and the project successful when streams in the project area, including Willow Creek, meet the Greenback Cutthroat Trout

Recovery Plan definition of a stable and established isolated population at the time of the determination.

If the definitions for a stable and established population change during a future revision of the recovery plan, the new definition will replace this definition as the criterion for this effort. If greenback cutthroat are determined to be recovered and subsequently delisted by the US Fish and Wildlife Service, isolated populations will be considered established using the standard of the last recovery plan developed prior to delisting.

Willow Creek is not proposed for stocking in the FEIS. Immigration of greenback cutthroat trout is the only means for achieving an established population in this stream. By establishing a population in Willow Creek solely through the movement of fish from other adjacent streams that have established populations, the function of the metapopulation as described in the FEIS and this ROD will be demonstrated.

Mitigation and Monitoring

The following mitigation and monitoring provisions are an integral part of this decision and will be the responsibility of the permittee.

Mitigation

- Any use of antimycin and rotenone in occupied boreal toad habitat will occur after tadpoles have metamorphosed and left the water. Existing surveys indicate no currently occupied toad habitat.
- Treatment areas will be closed to the public during treatment activities and for three days after the conclusion of treatment activities. The closure will extend far enough downstream to ensure that chemicals have been neutralized before exiting the closed area.
- An emergency notification and closure plan will be developed in case of a spill or chemicals fail to neutralize within the project area.
- Mitigation procedures will be developed in consultation with the Colorado State Historic Preservation Officer, the Advisory Council on Historic Preservation and any interested parties that are identified.
- Education of the public regarding non-native fish species impacts to native populations will occur to reduce the risk of illegal placement of non-native fish into restored areas.
- Any equipment and supplies used for restoration activities will comply with applicable agency guidelines to prevent the introduction or spread of aquatic nuisance species.
- The permittee will continue participation in the South Platte Water Related Activities Program to mitigate for the water depletions.
- If sensitive or federally listed species are identified during implementation a Park Service or Forest Service biologist will be contacted to assess the situation.
- Sensitive resources within riparian and wetland areas, such as threatened, endangered and sensitive species (TES) and rare plant species, will be clearly marked in the field and avoided where feasible during construction and implementation.
- Undesirable non-native plants will be removed if possible or clearly marked in the field and would be avoided where feasible in project activities. Where avoidance is not

feasible, monitoring for undesirable vegetation will occur for five years after disturbance is completed. If undesirable vegetation is found, follow-up treatment could include mechanical, biological, chemical or additional re-vegetation treatments.

- If additional prehistoric or historic materials are found during the course of this project, work in that area will cease until the District Ranger/Park Superintendent has been notified. Work in the area of the cultural resource may not resume until a professional archaeologist has evaluated the cultural materials and potential effects. The discovery must be protected until notified in writing to proceed by the authorized officer (36 CFR 800.110 & 112, 43 CFR 10.4).

Monitoring –

- When concrete is used as part of barrier construction, downstream pH monitoring will occur and operations will cease if pH reaches or exceeds acceptable levels.
- Activity areas will be monitored to ensure organic matter and ground cover is retained to the degree possible. If areas become heavily disturbed or denuded, re-vegetation in consultation with the agency re-vegetation specialist will be required.
- Each stream will be monitored for the first three years after greenback have been reintroduced and a minimum of every three years thereafter for presence of non-native fish and success of greenback recruitment during the life of the authorization.
- Monitoring of macroinvertebrate recovery after piscicide applications will be undertaken to assure adequate food supply and biological recovery prior to stocking of greenback cutthroat trout.

Decision Rationale

My decision is based on the effects disclosed in the final EIS, public comments received on the draft EIS and throughout the process, the project record, and applicable law, regulation and policy. In arriving at this decision, I considered a total of thirteen alternatives. Four were analyzed in detail and nine were eliminated from detailed study for the reasons stated in the FEIS on pages 35-38.

Alternative 3 minimizes the on-going resource damage being caused by the operation of Long Draw Reservoir. It does so through non-flow mitigation measures, by creating a metapopulation of native greenback cutthroat trout that includes the reservoir and the entire length of La Poudre Pass Creek above and below the reservoir. I selected Alternative 3 because it best meets the purpose and need as described in the FEIS on pages two and three. In addition I believe that Alternative 3 meets the Forest Service's responsibilities for minimizing damage to the environment per Section 505 of Federal Land Policy and Management Act for the reasons listed below.

1. Both the National Park Service and the Forest Service are required by the Endangered Species Act to conserve federally listed species and Alternative 3 contributes substantially to this effort. This alternative will provide significant benefit to the recovery of greenback cutthroat trout, a threatened species.
2. Because most of the damage resulting from operations of the dam and reservoir are within the Park, I have also considered the fact that Alternative 3 provides the greatest benefit to Park resources and values. Because it will restore a threatened native species,

Alternative 3 best addresses the fulfillment of the Park's purposes as defined in the enabling legislation by preserving natural conditions and conserving wildlife for the people of the United States. In addition, Alternative 3 moves the Park towards the desired condition for native trout restoration as described in the draft *Greenback Cutthroat Trout Management Plan* (in progress).

3. Alternative 3 also meets the intent of wilderness management goals within the Park and the National Forest by restoring native species.
4. Alternative 3 minimizes adverse impacts to La Poudre Pass Creek by putting the damage resulting from the ongoing operations of the reservoir into the context of conservation biology principals, specifically metapopulation dynamics. Alternative 3 uses the reservoir as a tool to create and maintain a large, connected population of native cutthroats. Because the reservoir will provide an ongoing source of cutthroat trout, the damage in the stream becomes less relevant to the long term maintenance of a large population of greenback cutthroat trout in the Park and the National Forest.
5. Alternative 3 was determined to be the environmentally preferred alternative as described in the National Environmental Policy Act (NEPA) and documented on pages 38 and 39 of the FEIS and described in this ROD.

In selecting Alternative 3, I have considered several concepts that contribute to species recovery and conservation. The first concept is that of a metapopulation and its importance to the persistence of a species. The second of those concepts is that of sinks and sources within a large connected area of habitat. It is the relationship of these two concepts and their application to the reservoir and the reach of La Poudre Pass Creek below the dam that provides the basis for my decision.

The concept of a metapopulation is described on page seven of this decision and in the FEIS. Understanding this key concept is essential for articulating the benefits of Alternative 3. Isolated populations of native trout are vulnerable to local extinction as the result of stochastic disturbance events such as fire, disease, localized drought or storms or invasion by non-native species. Greenback cutthroat trout in isolated drainages with no adjacent opportunities for refugia do not have the opportunity for protective movement into adjacent areas in reaction to disturbance. These populations are also vulnerable to genetic issues due to a lack of opportunity for genetic exchange.

Implementation of Alternative 3 would result in a metapopulation of greenback that would be at less risk of local extinction and have more robust genetic attributes. A metapopulation is one which is large enough to consist of several subpopulations linked together by immigration and emigration. These subpopulations may exist in two types of areas, source areas or sink areas. Ecological conditions in a source area meet all the needs of the species so that generally, births of a species exceed deaths of that species. Ecological conditions in a sink area are such that individuals can exist, but some important ecological need is not met. In sink areas, deaths of individuals generally exceed births so the population cannot be sustained. The continued presence of the species in a sink area is entirely due to immigration of individuals from a nearby source area (faculty.plattsburgh.edu/thomas.wolosz/metapop).

These concepts apply to the relationship between Long Draw Reservoir and La Poudre Pass Creek. The reservoir is considered a source area for the metapopulation of greenback cutthroat trout because it will provide high quality, productive habitat that will allow the population to grow. If necessary, stocking of fish can occur to assure that adequate numbers persist. Stocking of greenback in the reservoir would be continued, providing an important source of cutthroat into the metapopulation to maintain more recruitment than loss, even if an event were to occur that would adversely impact one or more of the subpopulations. The advantage of the reservoir as a source for the metapopulation is that trout generally grow bigger and mature faster in a lake environment. This is evidenced by the large size of the greenback cutthroat trout hybrid currently found in the reservoir. The fish leaving the reservoir when spilling occurs and when the headgates are opened are larger than stream resident trout and generally in excellent condition.

All of the other streams in the analysis area, with the exception of La Poudre Pass Creek below the dam, provide habitat of sufficient quantity and quality to meet all the life history requirements of greenback cutthroat trout, including spawning, rearing, and overwinter habitat. Prey species required to sustain trout populations would be available.

La Poudre Pass Creek does not provide conditions sufficient for fish during parts of the year and does not meet the needs of some life history stages of fish. While fish can and do exist in La Poudre Pass Creek at times, persistence of fish in the stream is the result of repopulation of the stream from adjacent refugia. This immigration likely occurs during the spring before releases begin and again in the fall once flow levels are reduced. In fact, La Poudre Pass Creek acts as an ecological trap for fish. An ecological trap is a kind of sink that appears to provide conditions that meet all the environmental requirements of an organism, but does not. This deficiency is not apparent to the organism so there is no avoidance of the area. In La Poudre Pass Creek, the lack of spawning, rearing and overwintering habitat and the increased energy costs needed to withstand unnaturally high flows and dramatic fluctuations in flow are not apparent to fish moving into the stream during the spring and fall. The physical damage to La Poudre Pass Creek downstream from the reservoir resulting from its ongoing operation causes this area to act as a sink; however, the effects to the metapopulation are mitigated because there is a connection to the source area in the reservoir. In other words, declining populations in the sink can be replenished by those from the source.

In summary, the ongoing impacts in La Poudre Pass Creek from reservoir operations are significant habitat alterations that prevent a sustainable population of fish from surviving. This effect on the metapopulation is mitigated due to the connection with the source habitat in the reservoir and other high quality stream habitats in the project area. The lower, permanent barrier establishing the downstream extent of the metapopulation is located approximately ¼ mile downstream of the confluence of La Poudre Pass Creek and the Cache la Poudre River where a natural barrier occurs. Alternative 3 mitigates the effects of this physical damage to the habitat by providing a biological solution. As such, it is not appropriate to conduct a comparative analysis between the damage occurring by the ongoing operations of this reservoir and the biological mitigation of that damage in Alternative 3 by using miles or acres of damage as a metric. (This is further addressed in a subsequent section of this Decision, entitled Proportionality).

Alternatives Considered

Three other alternatives that responded to the key issues (a no action alternative and two action alternatives) were considered in detail in the DEIS and FEIS.

Alternative 1 – Continuation of Current Management – This alternative represents the “no action” alternative required by the National Environmental Policy Act of 1969. This alternative would continue to authorize the expanded portion of Long Draw Reservoir with terms and conditions consistent with the operation and maintenance required by the 1980 permit. The 1980 permit contains general conditions requiring the permittee to use caution to avoid causing damage to forest resources. Timing of storage and releases would vary year to year depending on the supply of and demand for water.

Alternative 2 – Dam Modification for Winter Flows – This alternative was designed to utilize in-kind methods to directly address damage from ongoing operations of Long Draw Reservoir. Specifically, Alternative 2 provides for flows in the winter months to mitigate damage from lack of flows below the reservoir. In addition, Alternative 2 would provide for ramping of flows in the summer months to mitigate for damage from spiked releases. This alternative would authorize the operation and maintenance of the expanded portion of Long Draw Reservoir with terms and conditions designed to minimize impacts within La Poudre Pass Creek. Key provisions of this alternative include:

- Modification of the dam to allow winter releases;
- Releases of water during the winter months to mitigate loss of over-winter habitat caused by the current practice of allowing no release of water during the winter months;
- Installation of an early warning system to mitigate for safety concerns; and
- Ramping summer flows to mitigate impacts caused by abrupt spiked summer releases.

Alternative 4 – Colorado River Flows – This alternative would authorize operation and maintenance for the expanded portion of Long Draw Reservoir with terms and conditions to release water from the Grand Ditch during the summer months (June through September) into the Colorado River watershed. To further consider the key issue of off-site flow mitigation, Alternative 4 was designed to provide additional flow in the Kawuneeche Valley from the Grand Ditch. This alternative was designed to utilize off-site flows to compensate for damage while not changing the current operations of Long Draw Reservoir. Specifically, this alternative allows about 1,700 acre feet of Colorado River water to be bypassed into Red and Lost Creeks in the Park and not be intercepted by the Grand Ditch. This water would be bypassed when the ditch is operating, generally from June through September. The bypassed water would be allowed to flow through the riparian channels, wetlands, and fens of the Kawuneeche Valley into the Colorado River. Timing of releases and any change in release points would be determined annually by the National Park Service, in cooperation with the permittee.

In addition to the three alternatives analyzed in detail, nine other alternatives were considered but dismissed from detailed analysis. The rationale for dismissal is documented in the FEIS. These alternatives included:

- *No authorization alternative* – this alternative would not have authorized the occupancy and use of the enlarged Long Draw Reservoir and dam.

- *Pipeline alternative* – this alternative examined the concept of piping Grand Ditch water in a 14.5-mile pipeline to the Cache la Poudre River near the confluence of Joe Wright Creek.
- *Long Draw bypass alternative* – this alternative examined the concept of constructing a gravity flow pipeline or open channel around Long Draw Reservoir.
- *Channel modification alternative* – this alternative would require winter flow releases that approximate natural flows in both amount and timing. In addition, this alternative would require the modification of the stream channel within La Poudre Pass Creek downstream of the reservoir to ensure the winter native flows would be effective.
- *R2Cross alternative* – this alternative would require winter flow releases at levels determined by R2Cross, which is the Colorado Water Conservation Board’s recommended methodology for quantifying flow to meet the need of most life stages of fish and aquatic invertebrates within a stream.
- *JOP alternative* – this alternative would implement the current Joint Operating Plan (JOP).
- *JOP modification alternative* – this alternative would modify the JOP.
- *Reduced metapopulation alternative* – this alternative examined reducing the size of the metapopulation by relocation of the permanent barrier on the Cache la Poudre River to a location on La Poudre Pass Creek below the confluence of Corral Creek.
- *Public and Permittee Proposed Modification of Alternative 3* – this alternative would modify Alternative 3 as described in the DEIS by changing the implementation schedule and identifying responsibilities for implementation to non-governmental organizations, state and federal agencies with \$100,000 of seed money provided by the permittee.

I did not select Alternative 1 because this alternative would continue current management, which results in unmitigated impacts in La Poudre Pass Creek below the Long Draw dam as documented in Chapter 4 of the FEIS. When considering Alternative 1, I recognize that during the analysis of the enlargement of the reservoir in 1972 and 1973, the Forest Service recommended bypass flows to protect the fisheries in La Poudre Pass Creek below the dam. Bypass flows were forgone in favor of the construction of the conservation pool, which was expected to have "significant effect on flows by providing some seepage which is presently not the case when the reservoir is completely drained." This expectation has not materialized. My decision now is to consider the issuance of a new authorization, with terms and conditions as may be necessary to minimize damage in light of current conditions, policies and scientific knowledge. If the 1973 effects analysis had correctly anticipated impacts, mitigation measures had been effective and there had been no other changes in conditions or operations, further mitigation might not be necessary to minimize damage to the environment resulting from the continued operations and maintenance of the dam and reservoir; however this is not the situation before me.

I did not select Alternative 2 because, although this alternative proposes winter flows in La Poudre Pass Creek below the dam equivalent to the native flows in the basin, analysis indicates that native flows in the currently enlarged channel would not provide sufficient habitat to maintain a winter fishery in La Poudre Pass Creek.

I did not select Alternative 4 because while this alternative provides for beneficial impacts to wetlands and fens in the Kawuneeche Valley in the Park, these benefits are minor. I was also concerned that while Alternative 4 would provide benefits to the upper Colorado River, it does not benefit La Poudre Pass Creek and the Cache la Poudre River where impacts from the operations of Long Draw Reservoir are currently being realized. For these reasons I do not believe this alternative would best meet the Forest Service's responsibility for minimizing damage under FLPMA.

Consideration of Key Issues

Key issues are concerns that led to the development of an alternative, a conflict regarding uses of a resource that can be resolved through different approaches or alternatives, and/or necessary for an informed decision. Key issues are further discussed on page 7 of the FEIS. The key issues were the result of public scoping and are generally described as the following:

- adverse impacts in La Poudre Pass Creek
- off-site flow mitigation (more specifically the JOP)
- non-flow mitigation
- the safety of winter operations of the dam

In considering the key issues and the analysis documented in the FEIS, I have determined that, when considered collectively rather than individually, Alternative 3 best addresses these concerns. Specifically, the conditions in La Poudre Pass Creek as the result of the ongoing operations of the dam and reservoir were determined to be significant and unacceptable. Although Alternative 3 does not provide for direct flows in La Poudre Pass Creek below the reservoir, it does provide the best means for mitigating the adverse impacts from the current operations of Long Draw Reservoir through compensatory means. Analysis undertaken and documented in the FEIS indicates that native flows in the currently enlarged channel would not provide sufficient habitat to maintain a winter fishery in La Poudre Pass Creek without modification of the channel. Analysis also determined that requiring flows that would provide effective habitat without channel modification during the winter would drain the reservoir to the conservation pool, resulting in less habitat in the reservoir without eliminating a period of insufficient flows in the enlarged stream channel.

I also considered utilizing off-site flows as mitigation for the unacceptable impacts from the current operations. The JOP was selected as off-site mitigation for four reservoirs in 1994: Long Draw, Joe Wright, Barnes Meadow, and Peterson Lake. Two of the original facilities, Joe Wright and Barnes Meadow, are directly connected to Joe Wright Creek, which is the receiving stream for the JOP and a tributary of the Cache La Poudre River. In contrast, Long Draw Reservoir is not directly connected to Joe Wright Creek; rather it is situated on La Poudre Pass Creek, an upstream tributary of the Cache la Poudre River.

Today, neither Long Draw Reservoir nor Joe Wright Reservoir requires compliance with the JOP. The land underneath Joe Wright Reservoir was exchanged to the City of Fort Collins with the requirement that flows of 3 cfs be released during the winter through a conservation

easement. Today implementation of the JOP is required only for two facilities, Barnes Meadow and Peterson Lake.

Although Alternative 4 would be beneficial to wetlands and fens in the Kawuneeche Valley in the Park, these benefits would be minor. After consideration of the analysis documented in the FEIS, I have concluded that Alternative 4 would not meet the Forest Service's responsibility for minimizing damage under FLPMA when comparing its benefits to the benefits of Alternative 3. In addition, the benefits are not directly connected to the impacted area as they will be in Alternative 3. If direct mitigation of the ongoing damage is not readily feasible, then it is my preference to provide for off-site mitigation that is as closely connected to the ongoing damage as possible. Alternative 4 has limited effectiveness in addressing the unacceptable impacts from the operations of the dam and reservoir

Other Considerations

Non-Flow or Off site Mitigation

The Forest received many comments during the process of amending the Forest Plan Stream Flow standard (standard 12), as well as during the initial scoping for this analysis, that questioned the appropriateness of using offsite and/or non-flow measures when mitigating the dewatering of a stream that is occurring as a result of the ongoing operations of this facility. My ID team spent considerable resources considering whether this environmental damage could be minimized through offsite or non-flow measures. During the environmental analysis, it was determined to my satisfaction, that damage to the environment can be minimized through these types of measures as documented in the analysis of Alternatives 3 and 4.

Numerous comments received during the scoping period suggested that the ongoing impacts should be mitigated by releasing flows directly into the stream below the dam. To thoroughly address this approach, my ID team identified and analyzed Alternative 2, which would provide for direct flows into La Poudre Pass Creek through the dam. The ID team also considered three additional alternatives that would return flows to La Poudre Pass Creek. These alternatives were dismissed from further analysis for a variety of reasons described in the FEIS.

Proportionality

I received comments expressing concerns that the mitigation described in the preferred alternative was not commensurate with the impacts being mitigated. Those who submitted such comments based their concern upon the fact that 2.5 miles of streamreach were being impacted below the reservoir in La Poudre Pass Creek, while 37 miles of stream habitat and 106 acres of lake habitat will be restored with the implementation of Alternative 3. The concern expressed by some was that, solely using these acres and miles as numbers or metrics, Alternative 3 requires mitigation that is far in excess of the damages being caused by the operation of this project.

I do not agree with the use of these metrics when comparing the ongoing impacts or damage with the biological mitigation measures in Alternative 3. On page 56, the FEIS describes the impacts of the current operations. Operations create extreme habitat conditions ranging from zero flows

during the winter to unnaturally high flow conditions when the permittee releases water from the reservoir for downstream water uses. The permittee's operations have altered the hydrology and the channel characteristics of La Poudre Pass Creek and the mainstem of the Cache la Poudre River below the confluence. The combination of project operations and channel changes negatively affect fish habitat on La Poudre Pass Creek, both upstream and downstream of the reservoir.

While the authorization that was analyzed in the FEIS is for the dam and expanded portion of the reservoir, these operations are inseparable from the operations of the Grand Ditch and the perpetual easement that authorizes the original, smaller reservoir which sits at the bottom of the current reservoir. The expanded portion of the reservoir cannot be operated without operating the original and now submerged segment of this reservoir; nor can it be operated without the operation of the Grand Ditch. In fact, the reservoir only exists because the Grand Ditch exists and brings water across the divide. Impacts of the operations include the capture and conveyance of water into the expanded reservoir and the filling and maintenance of the original reservoir. While the initial impacts occurred in the past, the continuation of these operations causes a continuation of impacts and subsequent trends.

While I understand the concern for proportionality and the desire to be able to directly compare the amount of damage with the amount of mitigation, restricting the consideration of alternatives that cannot be directly compared deviates from the flexibility that was built into Forest Plan Standard 12. Standard 12 allows mitigation that is not in-kind when authorizing water developments and anticipates that direct comparisons in amounts may not be appropriate. In addition, this concern does not consider that it is common practice to mitigate environmental damage with an entirely different form of mitigation.

It is not uncommon for the Forest Service to fulfill its statutory and regulatory obligations on similar projects by identifying and requiring mitigation that cannot be directly compared to the impacts being mitigated. In many cases, by identifying indirect or alternative means of mitigating the ongoing impacts of an existing project, such as this one, the outcome may be one which minimizes economic impacts to the project owner, and can coincidentally minimize direct and indirect impacts to the ongoing operations of the authorized use.

For example, grazing along a stream that causes miles of potential bank instability and riparian damage could be mitigated with a fence of the same length and the direct comparison of linear feet affected to linear feet protected could be made. The impacts to the stream and riparian could also be mitigated with water developments at other locations in the area. There is no way to install a half of a water development; the only unit that is appropriate is one. The size of the development would need to fit the number of animals using it, the size of the water source filling it, and the terrain where it is located. Comparing the miles of stream impacted to the number and size of the water development isn't meaningful and illustrates the difficulties in comparing miles and months of impacts associated with the operations of Long Draw Reservoir with a metapopulation. The only unit that can be applied to a metapopulation is one. There cannot be a half metapopulation. Additionally, the size of the population is dependent on the available habitats, the target species, and the opportunities for a sustainable downstream barrier.

Alternative 3 mitigates impacts of the expanded reservoir and ongoing operations by improving streams connected to the reservoir and to La Poudre Pass Creek through the restoration of native trout. It is this direct connection to the reservoir and La Poudre Pass Creek that defines the size of the alternative, not the number of streams or their lengths. Once the metapopulation of native trout is established, the fact that fish cannot fulfill their life history within La Poudre Pass Creek becomes less relevant because the fish populations connected to that damaged stream will be substantially improved by the presence of desirable and sustainable native trout populations.

It is difficult to make a direct comparison between the mitigation of Alternative 3 and how it serves to mitigate the impacts being incurred by the operation of the dam and reservoir. Therefore, it is equally challenging to attempt to assess whether the non-flow, biological solution that comprises the mitigation in Alternative 3 is proportional to that which is being mitigated. Implementation of Alternative 3 mitigates physical damage that has occurred as the result of the expansion of this reservoir and its ongoing operations. It does so using a biological approach without any attempt at otherwise directly mitigating the physical damage. Rather it changes the residents of the stream from non-native fish to a native cutthroat trout in a large enough area to reduce vulnerability from environmental events.

If I were to select Alternative 2 in the FEIS, which would provide for a more direct means of mitigating the ongoing impacts of this project by requiring minimum streamflow releases from the dam, then the proportionality of the mitigation might be simpler to demonstrate. However, as described above, there were concerns with the selection of Alternative 2. The “channel modification alternative” described on page 36 of the FEIS would alleviate many of the concerns with Alternative 2 but additional and creative work would be necessary to ensure channel modifications structures could blend with the landscape to ensure National Park Service management goals and policies were met. This alternative (channel modification) would be expensive in terms of both the costs that would be required to establish it, and the costs that would be incurred by the effect it would have on changes to the current operations of Long Draw reservoir through flow requirements. As documented in the analysis, Alternative 2 would cost an estimated \$1,783,000 to implement, with potentially additional operational costs due to modifications of current reservoir operations. In comparison, implementation of Alternative 3 is estimated to cost \$831,600.

Economics

Alternative 3, the selected alternative, is likely to be the least costly to the permittee. The economic analysis presented in the FEIS indicates Alternative 3 would cost less than the upper cost estimate for Alternative 2 and less than Alternative 4. While NEPA requires the disclosure of the economic impacts of all alternatives considered, FLPMA does not allow for consideration of cost as a decision factor under section 505 of FLPMA. However, in response to the comments made on the DEIS and in keeping with the spirit of Forest Plan Standard 12, I looked for ways to reduce the cost of Alternative 3 and minimize its scope wherever possible. Modifications made to Alternative 3 from its original design included the elimination of the proposed restoration of Cascade Creek, changing the barrier type on the Grand Ditch, reducing the number of temporary barriers, and reducing the miles of streams to be stocked with native trout. In addition to these changes, which are described in the FEIS, I am further reducing the amount of stocking required

by eliminating stocking requirements for streams above Long Draw Reservoir, including Neota Creek.

Although restoration of Cascade Creek provides the benefit of a permanently isolated population with limited risk of disease or hybridization, this stream has been removed as a requirement of this Decision because the restoration of a native population in this stream would not be connected to the metapopulation. The large, natural cascade near the confluence of Cascade Creek and the Poudre River prevents upstream movement of fish and this confluence is below the permanent barrier. To further reduce the overall cost of the alternative, the barrier on the Grand Ditch will be a one way barrier that prevents upstream movement of native trout out of the reservoir into the ditch rather than the two way barrier that was described in the DEIS. This greatly reduces the cost of the barrier and limits the need for ongoing maintenance however it also necessitates the chemical removal of trout in several of the streams that are intersected by the Grand Ditch.

A reduction in the stocking of native trout will also reduce costs; therefore, I am not requiring the stocking of Willow Creek, Neota Creek, and the reaches of streams below temporary barriers. These areas will be allowed to populate through migration of fish from areas that have been stocked after the removal of the temporary barriers. Because Willow Creek will not be stocked, there is no need for a temporary barrier on this stream, further reducing costs.

While these cost saving changes were made in response to comments on the DEIS, further research of the specifics of implementation of this alternative determined that similar projects across the country include multiple treatments with chemicals in their implementation. Projects like Alternative 3 require multiple treatments for complete removal of non-native trout, so I have included two chemical removal efforts in my estimate for all streams in the area.

Baseline

Some comments on the DEIS took issue with the “baseline” used in our analysis. These comments suggested that no mitigation should be required in the reauthorization of this facility because mitigation for the enlargement of the dam was done when it was authorized and enlarged in the 1970s. Some comments also suggested that mitigation is not appropriate because the current renewal of the land use authorization for Long Draw Reservoir will not affect or change operations and thus will not affect the “baseline” or status quo. These comments rest on a misinterpretation of the requirements of FLPMA. Simply put, a “baseline” is not a component of the analysis required under that statute. Instead, FLPMA requires an agency to evaluate the damage caused by the authorized facility and to minimize that damage. NEPA requires an agency to evaluate a “no action” alternative to provide a baseline as part of its “hard look” at a proposed action and reasonable alternatives to that action.

The analysis fulfilled that requirement of NEPA by using the current operations of the existing project as the no action alternative. Doing so, however, was not intended to imply that the environmental damage being caused by the existing operations of this facility should be authorized to continue. To the contrary, Section 505 of FLPMA requires that each right of way authorization - whether new or renewal - contain terms and conditions to, among other

requirements, "...minimize damage to scenic and esthetic values and fish and wildlife habitat and otherwise protect the environment." This requires consideration of information available today as well as consideration of present day standards and concerns. The Forest used all available information to assist in this analysis under NEPA and FLPMA, including determining the ongoing impacts of continued project operations. This reauthorization illustrates the value of that requirement by appropriately identifying the continuation of the operation of this facility under the terms and conditions of the 1980 permit as the "no action" alternative for the FEIS.

Double Mitigation

Some comments received in response to the DEIS spoke about the concept of double mitigation, with the implication being that the estimated environmental effects of the enlargement of this facility were analyzed and have already been mitigated, when the enlargement was first proposed and previously authorized in 1974 (prior to construction). This analysis documented that some of the assumptions relied upon, when past mitigations were imposed, were not entirely accurate and that some mitigation measures, such as those designed to benefit fisheries, have not proven to be effective. Consequently the environmental damage caused by enlargement of the dam, reservoir, and its operations has been greater than what had been anticipated. FLPMA was enacted 2 years after the enlargement of this facility (1976), and it requires the Forest Service when issuing new authorizations, even for previously authorized and existing facilities, to minimize that damage pursuant to FLPMA provisions.

Cooperative Efforts

It became clear during the development of Alternative 3 that potential opportunities exist for a cooperative effort in implementing that part of the Alternative requiring the establishment of a metapopulation of native trout species. Although implementation of Alternative 3 is ultimately the responsibility of the permittee, the nature of this alternative lends itself to being implemented via cooperative efforts and the formation of partnerships between agencies, non-governmental organizations, and the permittee.

I received the results of an unprecedented effort in the form of a collaboratively developed alternative from a coalition including Water Supply and Storage, Trout Unlimited, City of Greeley, Colorado Division of Wildlife, and Colorado Water Conservation Board during comments on the draft EIS. This collaborative alternative proposes that Alternative 3 be modified with changes to the implementation schedule, a reduction in the number of fish removal efforts, and with other revisions that would require non-governmental organizations, state agencies and federal agencies to become responsible for implementing various elements of Alternative 3.

After careful consideration, I cannot accept this alternative and have dismissed it as a proposed means of implementing Alternative 3. I have done so because I have no authority to commit non-governmental organizations or other federal, state or local agencies to implement measures that will ultimately be the responsibility of the holder of the land use authorization that will be issued pursuant to this decision.

After the FEIS became available, this group has continued to work towards agreement for a cooperative implementation effort. At the time of the signing of this ROD, the group has differentiated portions of Alternative 3 as mitigation and enhancement as a means to identify portions of the project in which grants and partnerships would be the main avenue for funding implementation. This decision is not intended to detract nor negate the efforts or intentions of this group, and it is my hope that the collaborative work that has been done to date will provide the foundation for long term agreements between interested parties in the successful implementation of Alternative 3.

To demonstrate my commitment to this collaborative effort, I am directing my staff to participate in the development of partnerships and assist in the efforts being conducted by the interested parties, and to work with technical and policy experts in the development of an implementation plan.

The implementation plan will provide details for the following tasks:

- Incorporation of design criteria and mitigation measures identified in both the National Park Service and Forest Service's Record of Decision into applicable phases of the project;
- Incorporation of reasonable and prudent measures identified in the Biological Opinion received from US Fish and Wildlife Service into applicable phases of the project;
- Procedures for testing of existing barriers;
- Identification of specific sites for barrier construction or enhancement;
- Steps for developing detailed site plans for barriers;
- Methods and schedule for testing barriers after construction;
- Identification of brood stock;
- Data needs to develop chemical treatment plans that would include:
 - Placement and type of chemical application
 - Number of personnel needed for chemical application
 - Access
 - Base camp and dispersed camp locations and configuration;
- Stocking of fish, including numbers, location and methods of stocking effort;
- Removal of barriers;
- Short and long term monitoring;
- Partner commitments and identification of other partnering opportunities;
- Additional planning if non-target aquatic species (e.g., amphibians) are identified in project area; and,
- Additional planning if non-native fish are identified upstream of barriers after greenbacks have been reintroduced.

I am committed to facilitating the continuation of these collaborative and cooperative efforts to assure the successful implementation of this decision.

Public Involvement Conducted

Public involvement with the Long Draw analysis began on May 25, 2005 with the publication of the Notice of Intent (NOI) to prepare an environmental impact statement in the *Federal Register*

(Vol. 70, No. 100). The Forest Service solicited comments throughout the development of this environmental impact statement. Specific outreach efforts included the following:

- A letter soliciting comments sent on May 17, 2005 to about 600 individuals, agencies, and organizations on the Forest and Grassland-wide mailing list.
- In August 2005, the Forest Service sent a letter soliciting comments on the key issues identified by the interdisciplinary team from the comments received during the initial scoping effort.
- The August letter also provided an opportunity for interested parties to meet with the interdisciplinary team, if requested. The City of Greeley and The Water Supply and Storage Company requested meetings with the Forest Service and met with the interdisciplinary team on October 6, 2005. In addition, there was a follow-up meeting with The Water Supply and Storage Company on November 16, 2005.
- On February 16, 2006, the Forest Service held a public meeting to solicit comments on updated key issues and alternative concepts. The Forest Service accepted written comments on the information presented at the February meeting until March 20, 2006.
- On June 26, 2006, the Forest Service met with Water Supply and Storage Company, City of Greeley, and Trout Unlimited at their request to discuss their concerns regarding this project.
- On June 25, 2007, the Forest Service held a public meeting to solicit comments on the updated alternatives and accepted written comments on the information presented until July 13, 2007.
- On March 28, 2008 the Environmental Protection Agency (EPA) published the Notice of Availability of the DEIS in the Federal Register and the public had until July 11, 2008 to review and comment.
- On May 1, 2008, the Forest Service held a public meeting to answer questions on the Draft Environmental Impact Statement.

The effort described above, in addition to many informal meetings and site visits with the permittee and other interested parties, meets Standard 12 of the Forest Plan calling for cooperation in the management of water resources.

Comments on the DEIS were received from four individuals, the permittee, Trout Unlimited, a coalition of interested parties described previously in this ROD and nine government agencies. The agencies that commented include the Corps of Engineers, Northern Water Conservancy District, the Board of County Commissioners of Grand County, the Department of the Interior, the State of Colorado Office of the Attorney General, Colorado Division of Wildlife, the Environmental Protection Agency, Board of County Commissioners of Weld County and the City of Greeley.

The entities described above provided me with a wide variety of comments. These ranged from a desire to remove the reservoir to allowing the continued operations unchanged. While some comments were supportive of the preferred alternative, others reflected concerns over the type of mitigation being proposed in the action alternatives. Some comments indicated that off site or non flow mitigation should not be considered. Concerns were expressed regarding descriptions of baseline, historical mitigation and the description of damage resulting from the operations of

the dam and reservoir. Comments that provided additional information, proposed clarification and corrections to the DEIS were also received.

Changes to the FEIS in response to comments received on the DEIS have been generally restricted to adding detail to descriptions and analysis, consideration and/or dismissal of proposed modifications, and addition of a discussion regarding required permits and certificates. These modifications did not reach the level of substantive changes.

Findings Required by Other Laws

I have reviewed the Long Draw Reservoir Special Use Authorization Final EIS, project record, and public comments and find that applicable environmental laws, procedures and documentation to authorize the continued occupancy and use of National Forest System land have been satisfied. I have concluded that my decision is in compliance with current laws, regulations, and policies.

National Forest Management Act – My decision to implement Alternative 3 is consistent with the intent of applicable Forest Plan goals, objectives, standards and guidelines. I have reviewed the Forest Plan, Final EIS, and project record and determined that this decision is consistent with the forest-wide goals and objectives stated in the Forest Plan (Forest Plan, Chapter One) and is consistent with applicable Forest Plan standards and guidelines for water resources, real estate and special uses. The action in this project complies fully with applicable Geographic Area (Cameron Pass, Neota Wilderness, and Comanche Peak Wilderness) and Management Area (1.1, 1.3, 3.1, 4.3, 5.5) direction.

Implementation of Alternative 3 will not influence terrestrial management indicator species population trends at the local or planning unit (Forest-wide) scales. Aquatic management indicator species in the project area include brook trout, Colorado River cutthroat trout and greenback cutthroat trout. Brook trout will be extirpated from the project area but it is not expected to affect persistence of brook trout across the planning unit (Forest-wide). Colorado River cutthroat trout will be removed from Baker Gulch but it is not expected to affect population trends across the planning unit (Forest-wide). The effect to greenback cutthroat trout population trends will be beneficial at the local and planning unit (Forest-wide) scales. Implementation of Alternative 3 will not result in a loss of viability in the planning area of any sensitive species, nor cause a trend towards federal listing.

My decision is based on a review of the record that shows a thorough assessment of relevant scientific information. The best available science has been sought and applied in all aspects of the development of the FEIS and this ROD. Where it was identified by the Forest that additional information would provide for a more informed decision, the Forest contracted with USGS to undertake a study and analysis of winter conditions on the mainstem of the Cache la Poudre River. In addition, scientific information was provided by interested parties and the Forest collected, analyzed and presented, through specialist reports, site specific information and studies for my consideration and in support of my decision. The record, hydrologic data and analysis provided by the permittee, studies on conditions in the headwaters of the Colorado River within the Park undertaken by Dr. David Cooper of Colorado State University, and supporting

information collected from private and governmental entities support the analysis documented in the FEIS.

Clean Water Act – The Army Corp of Engineers has been consulted regarding required permits and compliance with the Clean Water Act. Recently, the rules regarding the use of piscicides in the context of the Clean Water Act have changed and additional permitting may be required for their use. All applicable permits from the Army Corp of Engineers and the State of Colorado will be obtained prior to implementation of Alternative 3 to assure compliance with the Act.

Endangered Species Act – Previous consultation for the Long Draw Dam and Reservoir took place in 1994 and a Biological Opinion from the USFWS was received on June 2, 1994 (FWS/ES/FS/GJ-6, CO-93-F-026). This Biological Opinion remains valid for the effects of the ongoing operations of Long Draw Reservoir to all species except greenback cutthroat trout. Since the 1994 Biological Opinion, the Canada lynx and Preble’s meadow jumping mouse have been listed as threatened and the bald eagle has been delisted.

To address changes in the effects of the proposal and the list of species being considered, consultation with US Fish and Wildlife Service (USFWS) in compliance with Section 7 of the Endangered Species Act has been undertaken in connection with this authorization. A Biological Assessment was completed for implementation of Alternative 3 and while this alternative provides significant, long term benefits to greenback cutthroat trout, the determination was made that implementation of Alternative 3 may affect and is likely to adversely affect greenback cutthroat trout. This is because as streams are recovered and stocked with native trout, individual trout would be expected to move downstream below temporary barriers into untreated sections of the project. When those sections are treated, these individuals would be impacted and potentially killed by actions associated with the treatments. In addition, there is one known population of greenback cutthroat trout on Hague Creek within the Park. Individuals from this population will be at the same risk when Hague Creek is treated. Mitigation is in place and described in the mitigation section of this ROD to minimize the number of individuals that would be at risk.

After formal consultation with the US Fish and Wildlife Service, a Biological Opinion (BO) was provided to the Forest and Park. This Biological Opinion provides reasonable and prudent measures (RPM) for implementation of Alternative 3 that minimize impacts of incidental take of greenback cutthroat trout. These measures are requirements for the Forest by US Fish and Wildlife Service.

- RPM #1: The Forest Service shall minimize harm of existing greenbacks from project activities.
- RPM #2: The Forest Service shall minimize harm to reintroduced greenbacks from project activities.
- RPM #3: The Forest Service shall maintain a pure restored greenback population.

In addition, to be exempt from the prohibitions of section 9 of the Act, the BO requires compliance with the following terms and conditions, which implement the reasonable and prudent measures, described above and outline reporting and monitoring requirements.

1. The Forest Service shall ensure that all conservation measures identified in the proposed action will be followed.
2. The Forest Service shall ensure that the Hague Creek greenback population will not be impacted by project activities (RPM # 1).
3. The source of fish for the reintroduction will be developed through coordination of the Greenback Cutthroat Trout Recovery Team.
4. Prior to closing off the water flow for the winter in the La Poudre Pass Creek below Long Draw Reservoir, the water flow in La Poudre Pass will be ramped down (i.e., gradually reduced) to minimize the number of fish stranded in pools overwinter. The schedule to achieve this will be developed by the Interagency Implementation Team (RPM # 2).
5. The Forest Service shall ensure that long-term monitoring and removal of non-native fish will occur for the life of the special use permit authorization.
6. The Forest Service shall provide a written annual report to the Service each year this Biological Opinion is in effect. The report will include: 1) a summary of project activities achieved during the past year; 2) discussion of any difficulties encountered in implementing the proposed action; and, 3) reports of monitoring studies, including number of fish mortalities. The report shall be submitted to the Service by April 1 of each year, or other date through mutual agreement.

The Biological Assessment determined that no other listed species would be affected by implementation of Alternative 3.

Federal Land Policy and Management Act – FLPMA represents the intent of Congress to balance the use of public lands by diverse interests while continuing to protect the environment. Section 505 of FLPMA establishes that terms and conditions may be imposed when uses of federal land for rights of way are granted. All of the action alternatives provide means for minimizing damage; however, the FEIS on page 38 identifies Alternative 3 as the environmentally preferable alternative and provides rationale for this determination.

FLPMA requires that damage be minimized by terms and conditions in an authorization but does not prescribe how that may be accomplished. Additionally, FLPMA requires damage associated with an authorization to be minimized regardless of when that damage occurred. FLPMA does not contain any provisions or language allowing for the "grandfathering" of past damage during re-authorizations and in fact, requires that all damage associated with the authorization be minimized.

Based on the analysis in the FEIS, I believe that on-site mitigation requiring bypass flows without modification of the channel below the dam, as proposed in Alternative 2, would not minimize damage to the environment because native flows would not provide usable habitat in what has become a significantly enlarged and altered stream channel below the dam. The analysis also determined that requiring minimum stream flows to provide effective habitat during the winter in the existing channel would drain the reservoir to the conservation pool, resulting in less habitat in the reservoir without eliminating a period of insufficient flows below the dam in the stream. This provides a compelling reason for identifying off-site alternatives as a means to minimize damage. The off-site mitigation proposed in Alternative 3 does so; it mitigates the effects of the physical damage to the habitat resulting from the operations of the dam and

reservoir by providing a biological solution while concurrently minimizing impacts to the ongoing operation of this water development facility.

National Historic Preservation Act – The Grand Ditch is listed on the National Register of Historic Places and will be adversely impacted by the implementation of Alternative 3. The construction of a fish barrier along the Grand Ditch will add modern visual elements and could require modification of the ditch itself, which will adversely affect the historic character of the ditch. In accordance with 36 CFR Part 800, the Forest Service has notified and invited the Advisory Council on Historic Preservation and Colorado Historical Society to enter into an agreement to negotiate appropriate mitigations.

Energy Requirements and Conservation Potential of Alternatives: The energy required to implement this decision in terms of petroleum products will be insignificant when viewed in light of the production costs and effects of the national and worldwide petroleum reserves.

Environmentally Preferable Alternative

The environmentally preferable alternative is the alternative that would best promote the national environmental policy as expressed in Section 101 of the National Environmental Policy Act. Generally this alternative causes the least damage to the biological and physical environment and best protects, preserves, and enhances historic, cultural and natural resources.

Of the four alternatives presented in this FEIS, Alternative 3 is the environmentally preferable alternative because it best promotes the national environmental policy as it is described in the National Environmental Policy Act to include:

- responsibility of each generation as trustee of the environment for succeeding generations;
- assurance of safe, healthful, productive and aesthetically and culturally pleasing surroundings;
- attainment of the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable or unintended consequences;
- preservation of important historic, cultural and natural aspects of our national heritage, and maintain, wherever possible, an environment that supports diversity and variety of individual choice;
- achievement of a balance between population and resource use which promotes a high standard of living and a wide sharing of life's amenities; and
- enhancement of the quality of renewable resources and maximum attainable recycling of depletable resources.

Alternative 3 best fulfills the responsibility for future generations by significant contribution to recovery of threatened native fish "...of aesthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people" (Endangered Species Act, 1973). Alternative 3, without additional risk to safety or health, improves the productivity and aesthetics of the area with establishment of a native fishery. Alternative 3 increases the beneficial uses of the environment by significant contribution towards the recovery of a threatened native fish

while fully maintaining the current benefit of the use of the stored water. This is accomplished without additional degradation or risk to health or safety. Alternative 3 preserves all aspects of our national heritage, including the natural aspect for which the Park was established and contributes towards diversity with native species recovery. Alternative 3 best achieves a balance between the various uses of the Park and Forest resources, including water for agricultural and municipal uses and species conservation and recovery. Alternative 3 enhances the quality of the renewable fisheries resource without changing the use of the depletable resource of water.

Administrative Appeal Opportunities

This decision is subject to administrative review (appeal) pursuant to 36 Code of Federal Regulations (CFR) Part 215 and under 36 CFR Part 251 Subpart C. Only the permittee may appeal under 36 CFR Part 251, however, the permittee must choose to appeal under either 36 CFR 251 or 215, but not both (36 CFR 251.85). Notices of Appeal that do not meet the content requirements of 36 CFR 215.14 or 36 C.F.R. 251.90, as appropriate, will be dismissed.

Appeal Filing Information

Appeals filed under 36 CFR, Part 215, must be filed (regular mail, fax, email, hand-delivery, or express delivery) with the Appeal Deciding Officer at the address shown below. Appeals, including attachments, must be filed within 45 days from the publication date of notice of this decision in the Denver Post, the newspaper of record. Attachments received after the 45 day appeal period will not be considered. The publication date in the Denver Post is the exclusive means for calculating the time to file an appeal. Those wishing to appeal this decision under 36 CFR, Part 215 should not rely upon dates or timeframe information provided by any other source.

Appeals filed under 36 CFR Part 251 Subpart C (including attachments) must be in writing and filed with the Reviewing Officer within 45 days following the date on the notice of the written decision (36 CFR 251.88). Appeals filed under 36 CFR 251 Subpart C must have a copy of the appeal simultaneously sent to the Deciding Officer (36 CFR 251.88).

The office business hours for those submitting hand-delivered appeals are: 7:30 AM – 4:30 PM, Monday through Friday, excluding holidays. Electronic appeals filed under 36 CFR 215 must be submitted in a format such as an email message, rich text format (.rtf), or Word (.doc) to the e-mail address shown below. In cases where no identifiable name is attached to an electronic message, a verification of identity will be required. A scanned signature is one way to provide verification.

An appeal may be filed by any person, non-federal organization, or entity that has provided comments or otherwise expressed interest in this proposed action by the close of the comment period for the DEIS. For further information on how to file an appeal, please see the appropriate regulations at <http://www.access.gpo.gov/nara/cfr/cfr-table-search.html>.

Where to Send an Appeal

Mail:

USDA Forest Service
Rocky Mountain Region
Attn: Appeal Deciding/Reviewing Officer
740 Simms Street
Golden, CO 80401-4720

Fax:

(303) 275-5134

Email:

appeals-rocky-mountain-regional-office@fs.fed.us

When an appeal is electronically mailed, the appellant should receive an automated electronic acknowledgement of agency receipt. If the appellant does not receive electronic confirmation of receipt, it is the appellant's responsibility to ensure timely receipt of the appeal by other means [36 CFR 215.15(c)(3)].

Appellants filing under 36 CFR Part 251 must simultaneously send a copy of the appeal to:

Glenn P. Casamassa
Forest Supervisor
Arapaho and Roosevelt NFs and Pawnee NG
2150 Centre Ave., Bldg. E
Fort Collins, CO 80526

It is the appellant's responsibility to provide sufficient project or activity specific evidence and rationale, focusing on the decision, to show why the Responsible Official's decision should be reversed [36 CFR 215.14(a)]. It is the responsibility of the appellant to provide sufficient activity-specific evidence and rationale, focusing on the decision, to show why the Deciding Officer's decision should be reversed (36 CFR 251.90).

Implementation

Pursuant to 36 CFR Part 215 and 36 CFR Part 251 Subpart C, if no appeal is filed within the 45 day time period, implementation of this decision may occur on, but not before, five business days from the close of the appeal filing period. If an appeal is received, implementation may occur on, but not before, the 15th business day following the date of the last appeal disposition.

Further Information

The Long Draw Reservoir Final Environmental Impact Statement, this Record of Decision, and other related documents can be found on the web at: www.fs.usda.gov/arp

For further information regarding the FEIS, the Record of Decision, or other issues related to the Long Draw Reservoir analysis, please contact Tom Ford at 970-295-6610 or tford01@fs.fed.us.

/s/ Glenn P. Casamassa

Glenn P. Casamassa

Forest Supervisor

Arapaho and Roosevelt National Forest and

Pawnee National Grassland

September 2, 2010

Date

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