



# Finding of No Significant Impact

---

## Minimize Erosion on the Upper Company Creek Road

### Purpose of and Need for Action

The purpose of this action is to minimize the risk of flood scouring and river erosion on the Upper Company Creek Road while protecting the natural resources, ecosystem functions and aesthetic qualities of the Stehekin River. Action is needed because the Stehekin River now floods with much greater frequency and intensity than in years past. There have been three floods of magnitude equal or greater to a 100-year event in the last twelve years. These floods have caused river conditions to change substantially in the vicinity of the Upper Company Creek Road. The riverbed has aggraded 3-4 feet, the shoreline has eroded substantially toward the road and massive log jams have formed, causing patterns of flow to shift substantially, especially during floods. These circumstances present an unacceptable risk of further flood damage to the road.

### Management Alternative Selected for Implementation

The NPS will implement Alternative B. Minimize Erosion with Bank Barbs and Bioengineering. This alternative is the same as that described in the Environmental Assessment. Specifically, the NPS will construct four rock bank barbs, place large woody debris between the barbs and densely plant native vegetation along approximately 500 linear feet of shoreline. Each bank barb will contain approximately 100 cubic yards of large angular rock spalls and fragments. An additional 100 cubic yards of angular rock will be placed between the barbs and amongst the woody debris to anchor the materials and minimize undermining. The total volume of rock placed along the Stehekin River shoreline will not exceed 500 cubic yards, so as to remain in compliance with the U.S. Army Corps of Engineer's Nationwide Permit #13 (Bank Stabilization).

The bank barbs will be installed using an excavator with thumb attachment, working "in the dry" from the shoreline. Each barb will include a significant amount of rock landward of the shoreline to 'key' the barb into the bank and prevent the river from eroding around the structure. The in-stream part of the barb will have a low profile that tapers into the channel and can be overtopped by flood flows so as not to affect flood elevations. The bank barbs will be approximately 15-20 feet long, and will protrude no more than ¼ of the way across the low flow channel. Large logs (with root wads attached for stability) will be placed between the barbs, from the toe of the bank up to the ordinary high water mark. The logs will be anchored with duckbill-type steel anchors and rock, and partly buried in the bank. Following installation, the slope of the bank will be graded to an angle of repose between 1.5:1 – 2:1, and then planted with riparian vegetation.

## **Other Management Alternatives Considered in the Environmental Assessment**

### No Action—Continue Current Management (Alternative A)

As required by the regulations for implementing the National Environmental Policy Act, the No Action Alternative must be analyzed in all Environmental Assessments because it provides the baseline for the analysis of other “action” alternatives. In this instance, the “No Action” alternative analyzed the impact of continuing current management activities without implementing the proposed action. Specifically, the NPS would continue to maintain the road in its current condition and alignment. Regular maintenance would include periodic grading, ditch maintenance and gravel resurfacing. After floods the NPS would repair road surface damage as feasible, and repair existing grade control structures as needed. Repairs would be performed by NPS employees or contractors.

There is a high probability that over time, damage from flooding would require more intensive management efforts to repair to the road. The NPS would continue to maintain the road until flood damages prevented routine repairs. Time permitting, further environmental analyses would then be conducted to identify appropriate management actions. Otherwise, emergency actions would be implemented to repair the road, followed by after-the-fact permitting and environmental documentation.

In the event of an emergency, the NPS would take immediate action to prevent or reduce risks to public health or safety and to prevent road failure. The most likely action to protect the road would be to armor the eroding bank with rip-rap because flood conditions would most likely preclude careful placement of rip-rap and other resource protection measures. Landowners with easement access to their property would also presumably take action in ways that could harm the resources and values of Lake Chelan NRA.

## **Alternatives Considered but Dismissed**

### Armor 1000 lineal feet of riverbank

The Army Corps of Engineers, Emergency Management Branch visited Stehekin on January 30, 2007 to evaluate the risk of flood damage and provide flood protection recommendations to Chelan County. The visit was prompted by a request from Chelan County officials who were concerned about the risk of further flood damage in Stehekin.

The Corps’ site visit yielded the following recommendations for flood control and erosion prevention in the vicinity of the Project Area:

- Company Creek Road: removal of an additional logjam and approximately 1,000 lineal feet of bank protection is needed to lessen the effects of erosion and flooding damage
- McGregor Meadows: approximately 2,000 lineal feet of bank protection is needed to lessen the effects of erosion and flooding damage.

The NPS considered but rejected the flood control recommendations of the Army Corps of Engineers’ Emergency Management Branch for Company Creek road because the proposed measures (a) would not comply with several provisions of the General Management Plan; (b) would be extremely costly to implement given the volume of large angular rock that would be needed; and (c) would most likely not be permitted by the state and federal agencies with regulatory jurisdiction over the Stehekin River, including the Regulatory Branch of the Army Corps of Engineers. Such large scale manipulations would most likely not be permitted because the extensive bank armoring techniques would fail to correct the underlying mechanisms (e.g. channel aggradation) that are contributing to flooding and erosion along the Stehekin River. They would also fail to protect adequately the important fish and wildlife habitat values of the Stehekin River and its riparian zone.

### Relocate the Upper Company Creek Road

This reroute would move the upper end of the road to the west, away from the river, and involve approximately 1.4-miles of new road construction. It would also require new driveways and spur roads to provide motor vehicle access to private property. The 1995 General Management Plan/EIS for Lake Chelan NRA considered but dismissed this alternative because it would require new road construction in undisturbed, mature forest and wetlands. In keeping with the policy of the 1995 GMP, this proposal was again considered but rejected.

## **Environmentally Preferred Alternative**

The Environmentally Preferred Alternative is the alternative that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historic, cultural and natural resources. Alternative B is the Environmentally Preferred Alternative because failure to enact proactive measures to minimize erosion of the river bank and road would most likely result in partial or complete road failure due to channel avulsion. Channel avulsion would then require either (a) a road reroute through relatively undisturbed forest and wetlands; or (b) substantial road reconstruction under emergency circumstances to maintain access to private property. Either scenario would cause greater adverse impacts to the biological and physical environment when compared with the preventive measures proposed in Alternative B.

## **Mitigation Measures**

Mitigation measures and Best Management Practices (BMP's) are intended to lessen the impact of management actions on the environment and the visitor. The following mitigation measures and BMP's will be implemented for this project:

### Timing of Construction

Construction will begin in early to mid-November and last for one to two weeks. This work window coincides with reduced visitor use of the Lower Stehekin Valley (peak visitor use is from July-September). Construction will be limited to the hours of 6:00 a.m. to 8 p.m., Monday to Friday; and 7:00 a.m. to 8 p.m. on weekends. Responsible Party: NPS Maintenance Personnel and/or contractors.

### Heavy Equipment Constraints

A large excavator would be used to place rock into the water and to excavate the stream bank. A spill containment kit would be kept on site. Pathways of ingress and egress will be marked using stakes and flagging to minimize damage to the shoreline. Responsible Party: NPS Maintenance Personnel and/or contractors.

### Sediment Control

Mulch and/or geotextile fabric would be used to cover exposed soils until vegetation becomes established on the site. Responsible Party: NPS Maintenance Personnel and/or contractors in consultation with Stehekin District Natural Resources Specialist.

### Unanticipated Discoveries of Cultural Resources

Should construction unearth cultural materials, all ground-disturbing activities will cease pending further investigations by the NPS Archeologist. Responsible Party: NPS Maintenance Personnel and/or contractors.

### Revegetation

The upper 3-4 ft. of the stream bank will be rehabilitated with whips of native willows and red osier dogwoods (4-5 foot length; <1" diameter) for a total distance of about 500 linear feet. The whips will be collected from the local area to ensure genetic integrity. Most of the whips will be planted using a

layering technique that employs biodegradable fabric (coconut-fiber) to protect soils until the roots become established (Figure 4). This technique, commonly referred to as “bioengineering”, has been used successfully to protect more than ½ mile of eroding streambank elsewhere along the Stehekin River. Collection of cuttings and planting will take place during dormancy to minimize mortality. Responsible Party: Stehekin District Natural Resources Specialist.

#### Post-construction Monitoring

During the first three years following planting, NPS staff will periodically inspect the area to identify problems such as excessive plant mortality or damage to the barbs from flooding. Replanting and/or barb repairs will be conducted if needed. Responsible Party: Stehekin District Natural Resources Specialist

#### Derelict Structure Removal

The NPS will remove the cabin and associated debris on NPS parcel #07-111 (Chelan County parcel # 331716220700). This 0.66 acre parcel, purchased by the NPS in 1973, has an old cabin that has been heavily damaged by recent flooding and needs to be removed before it gets washed into the river in the next flood. The NPS will also remove any remnants of the former residence and outbuildings (washed away in the 2003 flood) on NPS parcel #07-112 (Chelan County parcel #331709330100). The purpose of removing these structures would be to help restore the natural integrity of the riparian zone as partial mitigation for the impacts of the proposed erosion control measures. This action would also prevent loss of materials into the Stehekin River during future floods. Responsible Party: NPS Maintenance Personnel

## **Public Review**

#### Public Scoping

The NPS on February 16, 2007 initiated public scoping on several flood recovery proposals, including the proposed actions considered in this EA. This process involved mailing approximately 180 Flood Recovery Newsletters to a comprehensive list of individuals, Stehekin landowners, organizations and regulatory agency personnel. No public comments were received regarding this specific proposal. Feedback from NPS staff in Stehekin indicated that many Stehekin landowners did not realize the Newsletter was partly intended to initiate public comment on this proposal. In response, a second Newsletter, specific to Stehekin, was prominently posted on bulletin boards, in the Visitor Center and in the Post Office. Again, no comments were received concerning this specific proposal.

Chelan County on March 12, 2007 issued an Emergency Resolution declaring an imminent danger at several locations in the Stehekin River and upper Lake Chelan due to increased flooding risk. Chelan County officials convened a public meeting in Stehekin on March 29, 2007 to discuss the resolution and to develop flood protection proposals. Approximately 30 people, including Stehekin landowners, NPS staff, County officials, and several regulatory agencies, attended the meeting. Following the meeting, approximately 10 residents and NPS staff visited several flood-damaged sites along the Upper Company Creek Road, including the Project Area, to discuss options for mitigating flood damage.

The meeting and on-site discussions helped to further awareness of the risks and magnitude of flooding along the Upper Company Creek Road, and provided a constructive forum for NPS staff to engage directly with Stehekin residents and Chelan County officials regarding various measures the NPS was contemplating to minimize flood damages to the road as directed by the 1995 GMP. In turn, the discussion helped NPS staff better understand the flood control measures desired by Stehekin property owners. Specifically, while the residents supported NPS proposals to minimize erosion near the end of the Company Creek Road, most wanted to see more extensive measures aimed at flood control in addition to erosion prevention measures.

During this public scoping phase the NPS also met with the North Cascades Conservation Council (NCCC) at their request on March 23, 2007 to discuss potential NPS actions regarding flooding. NCCC representatives expressed concern that landowners on the Company Creek Road and McGregor Meadows would take actions that could adversely impact the Stehekin River and other resources and values in Lake Chelan NRA. They also confirmed their desire that the NPS work within the framework of the policies established in the 1995 GMP.

### Public Review of the EA

The EA was released for public review from September 26, 2007 to October 27, 2007. Hard copies of the document were mailed to approximately 140 individuals, organizations, agencies and public libraries in Wenatchee and Chelan, Washington. An electronic copy was also placed online at the NPS' Planning, Environment and Public Comment database. A News Release was also sent out to a wide variety of news media outlets and posted prominently on several bulletin boards in the Stehekin Valley.

Six comments were submitted on the EA. Three commenters supported the proposal and three opposed it. Those who opposed the project (a) challenged the analysis of hydraulic effects; (b) expressed concern that the action would cause more flooding across the river in areas known as McGregor Meadows; and/or (c) indicated the action was not sufficient to protect the road and adjacent properties. Those who supported the project cited the high cost of past repairs and the protective measures the bank barbs would afford the road and adjacent properties. The comments and responses are attached in an Errata sheet. The Errata sheet is to be attached to the original EA to form the final document.

### **Agency Consultation**

The NPS initiated consultations with the Fish and Wildlife Service, the Army Corps of Engineers and the Washington Department of Fish and Wildlife in summer 2007. The consultations and permit requests were pursued prior to public review and comment on the EA in order to ensure that permits would be obtained in a timely manner--provided the environmental impact analysis and/or public comments did not identify the potential for significant effects that would trigger preparation of an Environmental Impact Statement. A description of the permitting and consultations follows:

#### U.S. Fish and Wildlife Service (FWS)

The NPS initiated informal consultation with the FWS on July 31, 2007. This consultation included verbal discussions and a written Biological Assessment (BA) describing the potential effects of the proposed action. The BA concluded the project "may affect, but is not likely to adversely affect" the northern spotted owl or bull trout. The BA also concluded the project would have "no effect" on any other federally listed species that may be present in the Lower Stehekin Valley. The FWS issued a letter of concurrence to the NPS on August 24, 2007. The concurrence was issued with the condition that the proposal would be implemented as described in the BA.

#### U.S. Army Corps of Engineers, Regulatory and Enforcement Branch

The NPS in summer 2007 requested approval from the Corps to implement the proposed action under the terms and conditions of Nationwide Permit #13, Bank Stabilization. The Corps submitted a letter to NPS approving the permit (Reference # NWS 2007-01602-CRC) on August 20, 2007.

#### Washington Department of Fish and Wildlife (WDFW)

The NPS has obtained verbal assurance from Bob Steele, Inland Fisheries Biologist that a Hydraulic Project Authorization from the Department will be forthcoming following approval of this FONSI.

## **Why the Selected Alternative will not have a Significant Effect**

The NPS has determined that the selected alternative can be implemented with no significant adverse impacts on natural or cultural resources, ecosystem functions and values, human health and safety, socioeconomic considerations or NPS operations. Therefore, an Environmental Impact Statement will not be prepared. The following criteria in accordance with CEQ regulation 1508.27 were considered in support of this conclusion:

*Impacts that may have both beneficial and adverse aspects and which on balance may be beneficial, but that may still have significant adverse impacts that require analysis in an EIS.*

Impacts to water resources will be negligible to minor and adverse. Impacts to riparian vegetation will be adverse in the short-term but beneficial in the long term. Impacts to fish and wildlife will range from negligible to minor and adverse; however, no federally listed species are likely to be adversely affected. Impacts to recreation and visitor use will be negligible to minor and short-term. Socioeconomic effects will be negligible to minor during construction, followed by minor to moderate, long-term beneficial impacts.

*Effects on public health and safety.*

This action will help to ensure continued motorized access to the Upper Company Creek Road for various administrative purposes. It will also help to enable access to, and egress from, several private residences during and after flooding.

*Unique characteristics of the area (proximity to historic or cultural resources, wild and scenic rivers, ecologically critical areas, wetlands or floodplains, and so forth).*

The NPS has determined the reach of the Stehekin River within the Project Area is eligible for designation as “Recreational” under the Wild and Scenic Rivers Act. The project will have negligible to minor adverse impacts the free-flowing characteristics of the Stehekin River within the immediate vicinity of the Project area. Impacts to recreational values would be minor and beneficial. None of these impacts will threaten the potential designation of the Stehekin River as “Recreational” under the Wild and Scenic Rivers Act. No other unique characteristics of the area will be adversely affected.

*Degree to which impacts are likely to be highly controversial or are highly uncertain or involve unique or unknown risks.*

During the 30-day review period, six individuals commented on this project. None of the comment letters identified any substantive issues beyond those evaluated in the EA. Potential impacts that could result from the selected alternative are not likely to be highly controversial, uncertain, or involve unique or unknown risks.

*Whether the action may establish a precedent for future actions with significant effects, or represents a decision in principle about a future consideration.*

The selected alternative neither establishes a precedent for future actions with significant effects, nor represents a decision in principle about a future consideration.

*Whether the action is related to other actions that may have individual insignificant impacts but cumulatively significant effects.*

Cumulative impacts were fully evaluated in the EA. Of particular concern was the potential for cumulative adverse consequences to the Stehekin River, including cumulative effects to the hydraulic processes and the adjacent floodplain. The analysis identified negligible to minor, adverse cumulative impacts; but no cumulatively significant effects that would justify preparation of an EIS for this proposed action. The analysis did, however, identify concerns regarding the potential cumulative impacts of erosion control and flood protection measures that may be enacted in response



## Errata

NPS Policies for implementing NEPA provide that if substantive comments have been made, but do not necessarily require a change in the text of the EA, then the NPS should respond to these comments in an errata sheet. This Errata sheet is to be attached to the original EA to form the final document.

Six letters of correspondence were submitted on the EA. Three commenters supported the proposal and three opposed it. The letters of correspondence included four substantive comments. None of the substantive comments required edits to the Environmental Assessment. A description of the substantive comments and NPS responses follows:

1. Two commenters objected to the project out of concern for it causing further flooding of private properties in McGregor Meadows (a residential area on the opposite bank of the river that is subject to frequent flooding). *Representative comments:*

“It is my belief that NPS has declared that private property in McGregor Meadows indefensible against high water damage and is willing to see that property sacrificed for the sake of other property and to save additional costs for themselves.”

“The bottom line to be emphasized here and put into the record is that any human-made efforts to slow erosion in a fluvial system tend to result in additional erosion somewhere nearby.”

*Response:* The NPS disagrees that bank barbs will cause further flooding in McGregor Meadows. As stated on page 12 of the EA, “Bank barbs dissipate flow energy, require much less rock than bank armoring, do not accelerate erosion downstream, and do not cause bank undermining.” In addition, the impact analysis on water resources (page 36 of the EA) states “...the proposed bank barbs would not affect water surface elevations during floods.” These statements are supported by several previous hydraulic modeling efforts.

2. One commenter expressed concern that the proposed action would not address the larger problem of flooding in the Stehekin Valley. *Representative comment:*

“Since you appear to not be heading in the direction of fixing the whole problem I am for "Alternative B" because at least some help might come from the process. The other choice, "A" which is nothing, has not been of any help to this problem for years, which is perhaps why the problem is SO big now.”

*Response:* As stated in the EA, the purpose of the proposed action is to minimize erosion at the end of the Company Creek Road. Flood control is beyond the scope of this proposal. Instead, the NPS will be addressing flooding in a Stehekin River Implementation Plan/Environmental Impact Statement. Details on that broader planning effort will be forthcoming soon.

3. One commenter objected to the use of the term “Minimize” (used in the title of the Environmental Assessment) to describe the purpose of the project. *Representative comment:*

“I would like to point out the "minimizing further damage to the Upper Company Creek Road" has the effect of increasing erosion elsewhere in adjacent reaches. In particular, "reflective scour" should be anticipated opposite and downstream of the proposed protection measures. This has happened in the past by other actions of the NPS so it is logical to assume it will happen again. The use of the word "minimizing" is misleading at best.

*Response:* Concern for “reflective scour” is addressed in the first response statement. The term “minimize” was used to describe qualitatively how the proposed action would ameliorate the immediate effects of erosion on the road.



4. One commenter suggested the proposed action would not be sufficient to protect the road. Instead, a more comprehensive and enduring engineering solution in the form of a levee would be needed.

*Representative Comment:*

“Flooding landslides, rock falls and other ailments of nature need a holistic design and construction effort to ensure a 100-year protection throughout the Stehekin National Recreation Area. Band aid efforts must end”

*Response:* The NPS agrees that the bank barbs will not fully protect the road because they will only minimize erosion and will have no effect on flood elevations. To fully protect the road, erosion control *and* flood prevention actions would be necessary. Flood control, however, is beyond the scope of this proposal. Instead, the NPS will be addressing flooding in a Stehekin River Implementation Plan/Environmental Impact Statement. Details on that broader planning effort will be forthcoming soon