

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8

2014 DEC 22 AM 10:42

IN THE MATTER OF:)
)
GLENCOE CAMP RESORT II, LLC.)
20555 Glencoe Drive)
Sturgis, South Dakota 57785)
)
DEVORAH A. LOPEZ)
15344 Sonnet Place)
Hacienda Heights, California 91745)
)
and)
)
SEAN CLARK)
15344 Sonnet Place)
Hacienda Heights, California 91745)
)
Respondents.)
_____)

FILED
EPA REGION VIII
ADMINISTRATIVE ORDER
ON CONSENT

Docket No. CWA-08-2015-0010

I. INTRODUCTION

This Administrative Order on Consent (Consent Order) is entered into voluntarily by the United States Environmental Protection Agency (EPA) and Respondents Glencoe Camp Resort II, LLC (Glencoe), Devorah A. Lopez (Lopez) and Sean Clark (Clark). The Consent Order concerns the implementation and completion of actions required to restore the environmental damage caused by allegedly illegal discharges of dredged and/or fill material into Bear Butte Creek at a location (the Site) at the Glencoe Campground (Campground) owned by Lopez and operated by Clark, located in Township 5 North, Range 6 East, Section 6, Black Hills Meridian, Sturgis, Meade County, South Dakota.

II. STATUTORY AUTHORITY

This Consent Order is issued pursuant to the authority vested in the Administrator of the EPA by section 309 of the Clean Water Act (CWA), 33 U.S.C. § 1319, and by the Administrator delegated to the Regional Administrator of the EPA Region 8 and redelegated by the Regional Administrator of the EPA Region 8 to the Assistant Regional Administrator, Office of Enforcement, Compliance and Environmental Justice. The Consent Order is based on the EPA's finding of violations of section 301(a) of the CWA, 33 U.S.C. § 1311(a) which, among other things, prohibits the discharge of pollutants into waters of the United States except as in compliance with section 404 of the CWA, 33 U.S.C. § 1344.

III. PARTIES BOUND

This Consent Order shall apply to and be binding upon the EPA and upon Respondents, their officers, directors, agents, successors, and assigns. The signatories to this Consent Order certify that they are authorized to execute and legally bind the party they represent to this Consent Order. No change in the ownership, or management, or corporate status of Respondents or of the Site shall alter Respondents' responsibilities under this Consent Order unless the EPA, Respondents, and the transferee agree in writing to allow the transferee to assume such responsibilities. Additionally, at least 30 calendar days prior to such transfer, Respondents shall notify the EPA at the address specified in paragraph 31 of this Consent Order.

IV. STATEMENT OF PARTIES

The following FINDINGS OF FACT AND OF VIOLATION are made solely by the EPA. In signing this Consent Order, Respondents neither admit nor deny the FINDINGS OF FACT AND OF VIOLATION. As such, and without any admission of liability, Respondents consent to issuance of this Consent Order and agree to abide by all of the conditions herein. Respondents waive any and all claims for relief and otherwise available rights or remedies to judicial or administrative review which

Respondents may have with respect to any issue of fact or law set forth in this Consent Order, including, but not limited to, any right of judicial review of this section 309(a)(3) Consent Order under the Administrative Procedure Act, 5 U.S.C. §§ 701-708. Respondents further agree not to challenge the jurisdiction of the EPA or the FINDINGS OF FACT AND OF VIOLATION below in any proceeding to enforce this Consent Order or in any action under this Consent Order.

V. FINDINGS OF FACT AND OF VIOLATION

1. Respondent Glencoe was at all times relevant to the Consent Order a South Dakota limited liability corporation that owned and operated the Campground. Glencoe maintains its offices at 20555 Glencoe Drive, Sturgis, South Dakota, 57785.
2. Respondent Lopez was at all times relevant to the Consent Order the owner and operator of Glencoe, as well as owner and operator of the Campground. Lopez resides at 15344 Sonnet Place, Hacienda Heights, California 91745.
3. Respondent Clark was at all times relevant to the Consent Order the manager of Glencoe and the Campground. Clark resides at 15344 Sonnet Place, Hacienda Heights, California 91745.
4. The Campground is approximately 400 acres in size and has over 1,100 "hookups" for recreational vehicles. The Campground leases spaces to persons attending nearby events during the annual Sturgis Motorcycle Rally (Rally).
5. Bear Butte Creek runs through the Campground and is used by campers at the Campground during the Rally for recreational purposes. Bear Butte Creek is also used by other downstream property owners for watering cattle and livestock and has been designated a cold water fishery by the State of South Dakota.
6. Bear Butte Creek is a tributary of the Belle Fourche River, a traditionally interstate navigable water that flows from Wyoming into South Dakota. Bear Butte Creek has been designated as a

"water of the United States" by the U.S. Army Corps of Engineers (ACOE) within the meaning of 33 C.F.R. § 328.5. Bear Butte Creek is therefore a "navigable water" within the meaning of section 502(7) of the CWA, 33 U.S.C. § 1362(7).

7. In July, 2012, Respondents constructed an earthen dam across Bear Butte Creek for the purpose of creating a "water feature" for use by campers at the Campground during the Rally. The dam was approximately 75 feet long, 20 feet wide and 6 feet high. Approximately 500 cubic yards of fill material was used to construct the dam. The dam created a pool approximately 500 feet upstream, resulting in decreased flow to downstream users.
8. In addition, in the course of constructing the dam, Respondents constructed two cross channel levees, excavated the stream channel, and constructed recreational swim beaches. The project impacted approximately 640 linear feet of natural stream channel and 1280 linear feet of riverine shoreline.
9. On July 27, 2012, the South Dakota Department of Environment and Natural Resources (SDDENR) issued a Notice of Order to Discontinue Illegal Use of Water to Respondents Lopez and Glencoe. The Notice of Order required the removal of the dam before August 2, 2012.
10. On July 30, 2012, the ACOE issued a Notice of Violation and Cease and Desist Letter to Respondents Lopez and Glencoe, based upon the ACOE's determination that construction of the dam resulted in the illegal discharge of fill material into Bear Butte Creek without a permit as required under Section 404 of the CWA, 33 U.S.C. §1344.
11. Respondents removed the dam in mid-August 2012 under the supervision of the South Dakota Department of Environment and Natural Resources. Restoration of the Site has not been completed. Respondents have been instructed that restoration of the Site must be completed in a

manner that does not cause further negative impacts to Bear Butte Creek and restoration activities must be approved by the EPA.

12. The discharges of fill material described in paragraphs 7- 8 of this Consent Order resulted from the use of common earthmoving vehicles and equipment, which were operated by or operated at the direction of Respondents.
13. Respondents are “persons” within the meaning of section 502(5) of the CWA, 33 U.S.C. § 1362(5).
14. The discharged dredged and/or fill material referenced in paragraphs 7-8 of this Consent Order is and was at all relevant times “dredged material” and/or “fill material” within the meaning of 33 C.F.R. § 323.2(c) and (e), respectively, and “pollutants” within the meaning of section 502(6) of the CWA, 33 U.S.C. § 1362(6).
15. The vehicles and equipment referenced in paragraph 12 of this Consent Order are and were at all relevant times each a “point source” within the meaning of section 502(14) of the CWA, 33 U.S.C. § 1362(14).
16. The placement of dredged and/or fill material into Bear Butte Creek constitutes the “discharge of pollutants” within the meaning of section 502(12) of the CWA, 33 U.S.C. § 1362(12).
17. Section 301(a) of the CWA, 33 U.S.C. § 1311(a), prohibits, among other things, the discharge of pollutants by any person into waters of the United States except as in compliance with section 404 of the CWA, 33 U.S.C. § 1344.
18. Section 404 of the CWA, 33 U.S.C. § 1344, sets forth a permitting system authorizing the Secretary of the Army, acting through the Chief of Engineers of the ACOE, to issue permits for the discharge of dredged or fill material into navigable waters, which are defined as waters of the United States.

19. 33 C.F.R. § 323.3(a) specifies that, unless exempted pursuant to 33 C.F.R. § 323.4, a permit issued by the ACOE is required for the discharge of dredged or fill material into waters of the United States.
20. Respondents were not authorized by a permit issued pursuant to section 404 of the CWA, 33 U.S.C. § 1344, to conduct any of the activities described in paragraphs 7-8 of this Consent Order.
21. The activities conducted by Respondents described in paragraphs 7-8 of this Consent Order violated section 301 of the CWA, 33 U.S.C. § 1311.
22. Activities to be carried out under this Consent Order are remedial, not punitive, and are necessary to achieve the CWA's objective "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters," as specified in section 101(a) of the CWA, 33 U.S.C. § 1251(a). Restoration is appropriate and required to address the actual and potential harm to water quality, aquatic habitat, and wildlife habitat, as well as other functions and values, caused by Respondents' unpermitted activities.
23. These preceding FINDINGS OF FACT AND OF VIOLATION and the ORDER FOR COMPLIANCE below have been made after consultation and coordination by the EPA Region 8 with the ACOE's Omaha District.

VI. ORDER FOR COMPLIANCE

Based upon the foregoing FINDINGS OF FACT AND OF VIOLATION and pursuant to the authority vested in the Administrator of the EPA under section 309(a) of the CWA, 33 U.S.C. § 1319(a), as properly delegated to the Assistant Regional Administrator of the Office of Enforcement, Compliance and Environmental Justice, it is hereby ORDERED and AGREED:

24. Respondents shall immediately terminate all unauthorized discharges of dredged and fill material at the Site, now and in the future, into waters of the United States unless specifically authorized

by the ACOE under a valid permit issued pursuant to section 404 of the CWA, 33 U.S.C. § 1344. This prohibition includes all mechanical land clearing, dredging, filling, grading, leveling, installation of utilities, construction, and any other activities that result in the unauthorized discharge of dredged or fill material into waters of the United States.

25. Respondents shall conduct removal and restoration activities for impacts to waters of the United States resulting from the unauthorized discharges of dredged and/or fill material, as well as monitoring of stream recovery in accordance with the schedule and other requirements set forth in the monitoring plan (Plan) prepared by Biota Research and Consulting, Inc. (Biota) appended herein as Attachment A.
26. This Consent Order is not a permit or an authorization to discharge dredged or fill material, storm water, or any other pollutant into waters of the United States. Respondents shall consult with the ACOE at the address and telephone number below to determine if any work to be performed pursuant to this Consent Order requires a permit from the ACOE under section 404 of the CWA, 33 U.S.C. § 1344:

U.S. Army Corps of Engineers
South Dakota Regulatory Office
28563 Powerhouse Road, Room 118
Pierre, South Dakota 57585
(605) 224-8531

If any such permit is required, Respondents shall obtain such permit(s) and provide a copy or copies to the EPA at the address listed in paragraph 31 of this Consent Order prior to initiating any work that is to be performed pursuant to this Consent Order.

27. Respondents must make a timely application for each permit necessary to implement the Plan and for conducting removal and restoration activities in accordance with the Plan, including the schedule specified therein, with all granted permits, and with all applicable laws. If any permits

are necessary, Respondents shall demonstrate that all permits have been granted by providing copies of all such permits, and any amendments thereto, to the EPA within thirty calendar days of issuance of each permit.

28. In addition to the notification requirements set forth in paragraph 26 of this Consent Order, after issuance of any ACOE authorization for work required under this Consent Order, Respondents shall submit all notifications and correspondence to the ACOE in accordance with the terms and conditions in the ACOE permit.
29. Respondents shall implement the Plan and conduct all required activities in accordance with the Plan, including the time frames specified therein, and all granted permits.
30. If Biota is not retained by Respondents to supervise all work performed pursuant to the Plan, within 15 calendar days of receipt of this AOC, Respondent shall submit to the EPA for the EPA's approval, the name and qualifications, including professional resume, of a consultant experienced in stream restoration who will directly supervise all work performed pursuant to the Plan.
31. Respondents shall submit two copies of the Plan, all permits, notifications, and related correspondence to:

Richard Clark, 8ENF-W
U.S. Environmental Protection Agency, Region 8
1595 Wynkoop St.
Denver, CO 80202-1129
Telephone: 303-312-6748

A copy of the Plan also shall be provided to the ACOE at the address noted in paragraph 26 of this Consent Order.

32. All plans, deliverables, reports, specifications, schedules, and attachments required by this Consent Order are, upon approval by the EPA, incorporated into this Consent Order. The parties

shall update, from time to time, a list, signed by the parties' authorized representatives, which identifies all such modified or additional plans, deliverables, reports, specifications, schedules, and attachments agreed upon subsequent to execution of this Consent Order. Any noncompliance with such EPA-approved plans, deliverables, reports, specifications, schedules, and attachments shall be deemed a failure to comply with this Consent Order and subject to EPA enforcement.

33. A lease, sublease, or transfer of the Site shall not relieve Respondents, their officers, directors, agents, successors, and assigns of any responsibility in the Consent Order unless the EPA, Respondents, and the lessee, sublessee, or transferee agree in writing to allow the lessee, sublessee, or transferee to assume such responsibility, which agreement shall not be unreasonably withheld. Additionally, at least 30 calendar days prior to such lease, sublease, or transfer, Respondents shall notify the EPA regarding the details of the lease, sublease, or transfer at the address specified in paragraph 31 of this Consent Order.
34. Respondents shall allow, or use its best efforts to allow, access by any authorized representative of the EPA or its contractors and the ACOE to the Site and to all non-privileged records relevant to this Consent Order for any of the following purposes:
 - a. To inspect and monitor progress of the activities required by this Consent Order;
 - b. To inspect and monitor compliance with this Consent Order; and
 - c. To verify and evaluate data and other information submitted to the EPA.
35. This Consent Order shall in no way limit or otherwise affect the EPA's authority, or the authority of any other governmental agency, to enter the Site, conduct inspections, have access to records, issue notices and orders for enforcement, compliance, or abatement purposes, or monitor compliance pursuant to any statute, regulation, permit, or court order.

36. This Consent Order shall be effective upon the date Respondents receive a fully executed copy of this Consent Order.
37. Issuance of this Consent Order shall not be deemed an election by the United States to forego any civil or criminal action to seek penalties, fines, or other appropriate relief under the CWA for violations giving rise to this Consent Order.
38. The EPA agrees to submit all notifications and correspondence related to the Consent Order to:

Devorah Lopez and Sean Clark
15344 Sonnet Place
Hacienda Heights, California 91745

Any party hereto may, by notice, change the address to which future notices shall be sent or the identities of the persons designated to receive notices hereunder.

40. If an event causes or may cause delay in the achievement of the requirements of this Consent Order, Respondents (either or both) shall notify the EPA by telephone or via e-mail as soon as possible and in writing within twenty working days from the date Respondents or either of them first know of such event, or should have known of such event by exercise of due diligence, whichever is earlier. Respondents' written notice shall specify the length of the anticipated delay, the cause(s) of the delay, the measures taken or to be taken by Respondents to minimize the delay and a timetable by which those measures will be or have been implemented. Notification to the EPA pursuant to this paragraph of any anticipated delay, by itself, shall not excuse the delay or the obligation of Respondents to comply with requirements and deadlines of this Consent Order, unless the EPA grants in writing an extension of the applicable requirement or deadline which extension shall not be unreasonably withheld.
41. If Respondents demonstrate to the EPA's satisfaction that the delay or anticipated delay has been or will be entirely caused by circumstances beyond Respondents' control (or the control of any of

Respondents' agents) that Respondents could not have foreseen and prevented despite due diligence, and that Respondents have taken all reasonable measures to prevent or minimize such delay, the EPA may excuse performance or extend the time for performance of such requirement for a period not to exceed the actual delay resulting from such circumstances. The EPA's determination on these matters shall be made as soon as possible and in writing within ten working days after the receipt of Respondents' written notification of the event.

42. Respondents understand and acknowledge the following:
- a. Compliance with the terms and conditions of this Consent Order shall not be construed to relieve Respondents of their obligations to comply with any applicable Federal, state, or local law or regulation.
 - b. Failure by Respondents to complete the tasks described herein in the manner and time frame specified pursuant to this Consent Order may subject Respondents to a civil action under section 309 of the CWA, 33 U.S.C. § 1319, for violation of this Consent Order.

ADMINISTRATIVE ORDER ON CONSENT IN THE MATTER OF:
GLENCOE CAMP RESORT II, LLC; DEVORAH LOPEZ; AND SEAN CLARK

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY, REGION 8
Complainant

12/22/14

Date

Suzanne J. Bohan

Suzanne J. Bohan
Acting Assistant Regional Administrator
Office of Enforcement, Compliance and
Environmental Justice

GLENCOE CAMP RESORT II, LLC and
DEVORAH LOPEZ
Respondents

Date

Devorah Lopez
Owner/Operator

SEAN CLARK
Respondent

Date

Sean Clark
Operator

ADMINISTRATIVE ORDER ON CONSENT IN THE MATTER OF:
GLENCOE CAMP RESORT II, LLC; DEVORAH LOPEZ; AND SEAN CLARK

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY, REGION 8
Complainant

Date

Suzanne J. Bohan
Acting Assistant Regional Administrator
Office of Enforcement, Compliance and
Environmental Justice

GLENCOE CAMP RESORT II, LLC and
DEVORAH LOPEZ
Respondents

12.17.14

Date



Devorah Lopez
Owner/Operator

SEAN CLARK
Respondent

Date

Sean Clark
Operator

ADMINISTRATIVE ORDER ON CONSENT IN THE MATTER OF:
GLENCOE CAMP RESORT II, LLC; DEVORAH LOPEZ; AND SEAN CLARK

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY, REGION 8
Complainant.

Date:

Suzanne J. Bohan
Acting Assistant Regional Administrator
Office of Enforcement, Compliance and
Environmental Justice

GLENCOE CAMP RESORT II, LLC and
DEVORAH LOPEZ
Respondents.

Date

Devorah Lopez
Owner/Operator

SEAN CLARK
Respondent

12-18-2014

Date



Sean Clark
Operator

ATTACHMENT A

MONITORING PLAN
BEAR BUTTE CREEK, GLENCOE CAMP RESORT II, LLC PROPERTY
MEADE COUNTY, SOUTH DAKOTA



Prepared For

Glencoe Camp Resort II, LLC
20555 Glencoe Drive, PO Box 999, Sturgis, South Dakota, 57785

Prepared By



P. O. Box 8578, 140 E. Broadway, Suite 23, Jackson, Wyoming 83002

December 5, 2014

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MONITORING PLAN
BEAR BUTTE CREEK, GLENCOE CAMP RESORT II, LLC PROPERTY
MEADE COUNTY, SOUTH DAKOTA

INTRODUCTION

Biota Research and Consulting, Inc. (Biota) has been retained by Glencoe Camp Resort II, LLC to prepare a monitoring plan (Plan) for a previously altered reach of Bear Butte Creek near Sturgis, South Dakota. The primary purposes of this plan is to achieve federal Clean Water Act compliance and to establish a framework within which to monitor and document the continued natural recovery of the impacted reach of the watercourse.

The Plan includes a discussion of hydrologic analyses relevant to the reach; morphologic assessments within the project area; wetland investigations; identification of passive restoration objectives; and establishment of specific monitoring procedures to document future changes in site conditions. These materials are intended to be used for regulatory agency review, project implementation, and long-term assessment of project success.

PROJECT DESCRIPTION

PROJECT LOCATION

The Bear Butte Creek project area is located approximately 4 miles east of Sturgis in Meade County, South Dakota (Parcel ID 17.06.11; T5N, R6E, Sec 6; Black Hills meridian, Sheet 1). The project area is on property owned and operated by Glencoe Camp Resort II, LLC, Devorah A. Lopez, and Sean Clark. Land uses on the property include a campground that provides services to visitors attending nearby events, including the annual Sturgis Motorcycle Rally. The campground is approximately 400 acres in size, and has approximately 1,100 sites for recreational vehicles. The project area encompasses a 640-foot reach of Bear Butte Creek located approximately 1,500 ft North of Hwy 34 (Sheet 2).

PROJECT SUMMARY AND BACKSGROUND

Bear Butte Creek is a tributary of the Belle Fourche River, an interstate navigable watercourse, and has been designated a “water of the United States” by the Army corps of Engineers (USACE). In July of 2012, the landowners (Respondents in the Environmental Project Agency’s Administrative Order of Consent) conducted unauthorized dredge and fill activities while discharging approximately 500 cubic yards (cy) of fill to construct a 75-foot long earthen dam across the watercourse. In addition, 2 cross channel levees were constructed, the stream bed was excavated, and recreational swim beaches were constructed resulting in impacts to 640 feet of channel and 1,280 feet of stream bank.

On July 27, 2012, the South Dakota Department of Environment and Natural Resources (SDDENR) issued a Notice of Order to Discontinue Illegal Use of Water to the Respondents, and required the removal of the dam prior to August 2, 2012. On July 30, 2012, the USACE issued a Notice of Violation and Cease and Desist Letter based on the determination that the construction of the dam was accomplished through the unauthorized discharge of fill material into Bear Butte Creek. In mid-August 2012, the Respondents removed the constructed dam, but additional active restoration of site conditions was not performed. In the spring of 2014, the Environmental Protection Agency (EPA) issued an

Administrative Order of Consent (AOC) requiring that a restoration plan be developed and submitted to EPA for approval, and that site restoration be accomplished as described in the approved plan, and that an USACE permit be obtained for restorative grading activities in compliance with Section 404 of the Clean Water Act.

On September 8, 2014, Biota submitted to the EPA a memo outlining completed site investigations associated with wetlands, hydrologic regime, and morphologic conditions. Presented findings concluded that the removal of the dam and ongoing fluvial processes had enabled natural system recovery, and that a passive restoration approach might be appropriate in order to minimize further disturbance while simultaneously allowing the system to recover through natural fluvial processes. The EPA accepted the study methods and findings, and requested that a monitoring plan be developed to quantitatively document future system recover achieved through a passive restoration approach.

RESPONSIBLE PARTIES

Respondents identified in the AOC are Glencoe Camp Resort II, LLC, Devorah A. Lopez, and Sean Clark, and those entities are responsible for the long-term management and protection of the project area. The hydrologic regime within the project area is maintained by natural runoff conditions and the actions of upstream water resource managers, both of which are beyond the control of the Respondents. A monitoring plan has been developed to quantitatively describe system recovery expected to occur as a result of natural fluvial processes under the existing hydrologic regime.

TYPES, FUNCTIONS, AND VALUES OF JURISDICTIONAL AREAS

A geomorphologic channel survey was performed in August 2014. The survey encompassed a 2,100-foot reach of Bear Butte Creek, including the 640-foot project area channel reach, along with a 900-foot reach upstream and 500-foot reach downstream of the project reach. Professional grade GPS survey equipment was used to measure water surface elevation; thalweg; bankfull indicators (where present); floodplain and terrace features; top of bank elevations; and channel geometry, local slope, and planform within the project reach. Morphologic survey data were used to quantify channel characteristics through the surveyed reach.

Geomorphic channel assessments commonly focus on analysis of the bankfull channel. Bankfull discharge is the flow rate, and bankfull stage is the corresponding water surface elevation at which flows escape the active channel and inundate the floodplain (referred to as incipient flooding). Bankfull channel assessment is practical because bankfull indicators can typically be identified in the field and corroborated through hydraulic modeling. However, recent alterations of the project reach and natural channel rejuvenation that has occurred since discharged material was removed make reliance on existing bankfull indicators problematic. To confirm field observations of bankfull indicators, hydrologic modeling was performed to estimate typical peak flow conditions within the project reach. There is natural variability in the recurrence interval of bankfull discharge between sites. Common morphologic assessment technique and professional experience in the region suggest that a reasonable estimation of bankfull discharge is the 1.5-year recurrence interval peak flow (e.g., the peak flow rate that has a 67% chance of occurring during a typical year).

To inform calculation of hydrologic parameters based on drainage basin, the Bear Butte Creek project area catchment was delineated using Geographic Information System (GIS), US Geological Survey (USGS) topographic quadrangles, and the National Hydrography Dataset (NHD data). The mapped project area catchment has an area of 75.5 square miles (sq mi), and is depicted in Figure 1.

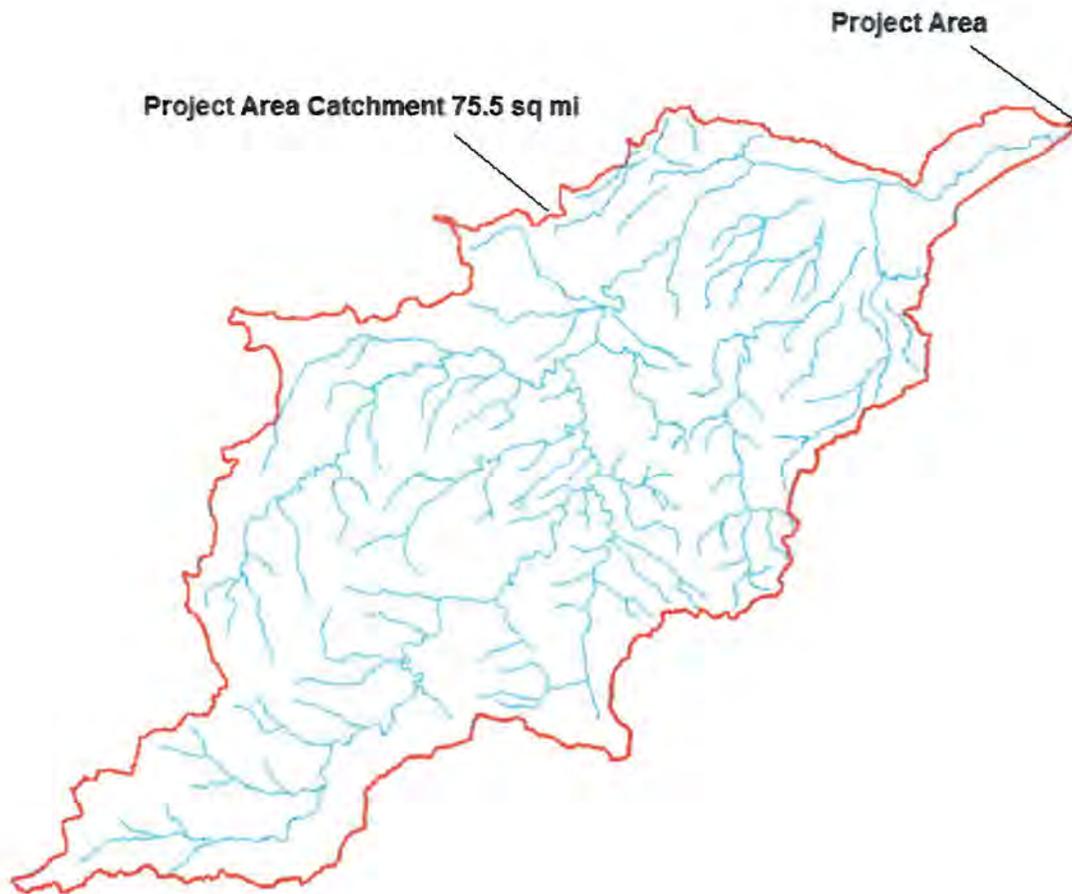


Figure 1. Delineated Bear Butte Creek project area catchment.

Hydrologic data from 17 established stream flow gauging stations in the vicinity of the project area were obtained from the USGS. Peak flow data were statistically analyzed, and the 1.5-year recurrence interval peak flow from each gauge site was graphed against gauge catchment area (Fig. 2, blue data). The generated correlation indicates that the 1.5-year peak flow in the project reach is 92 cubic feet per second (cfs). Two USGS gauges are located on Bear Butte Creek upstream of the project area. A second correlation was generated using only these 2 gauges to more accurately reflect conditions within the local basin (Fig. 2, red data). The resulting calculation indicates that the 1.5-year peak flow in the project reach is 130 cfs. The 130 cfs peak flow is assumed to be more accurate than the value derived from the broad geographical analysis, is believed to represent the local bankfull discharge, and is used for assessment purposes.

The Hydrologic Engineering Center's River Analysis System (HEC-RAS) was used to generate a hydraulic model using channel survey data that represent existing conditions within the project area. Using the 1.5-year recurrence interval discharge of 130 cfs, model output was used to confirm field observations of bankfull elevation at each surveyed cross section, within and beyond the project reach (Figure 3). The identified bankfull channel was used during geomorphic assessment of channel form and function.

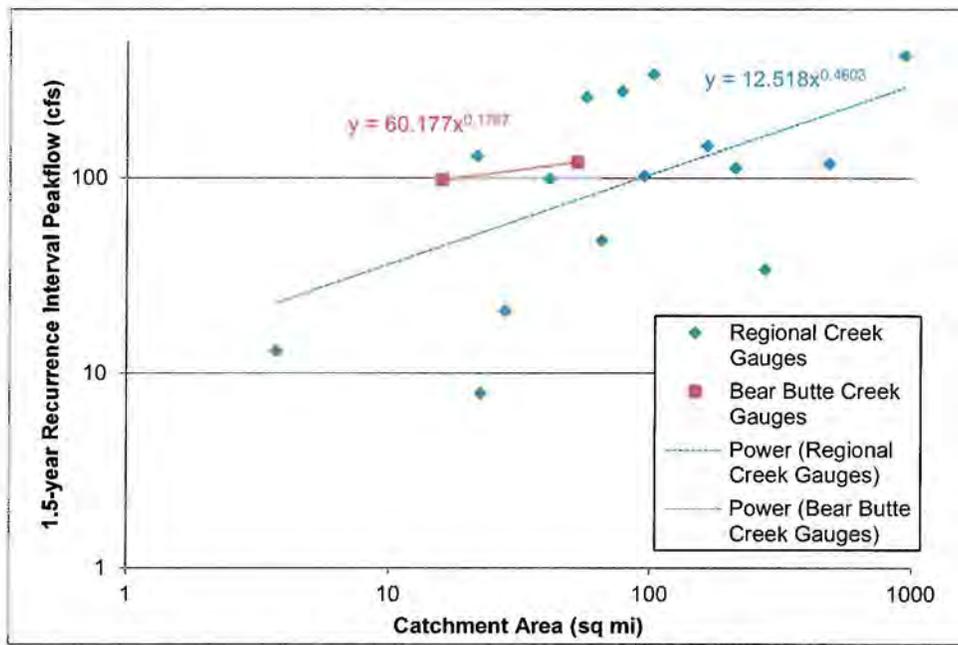


Figure 2. Correlation between catchment area and 1.5-year peak flow from USGS gauges proximate to the Bear Butte Creek project area.

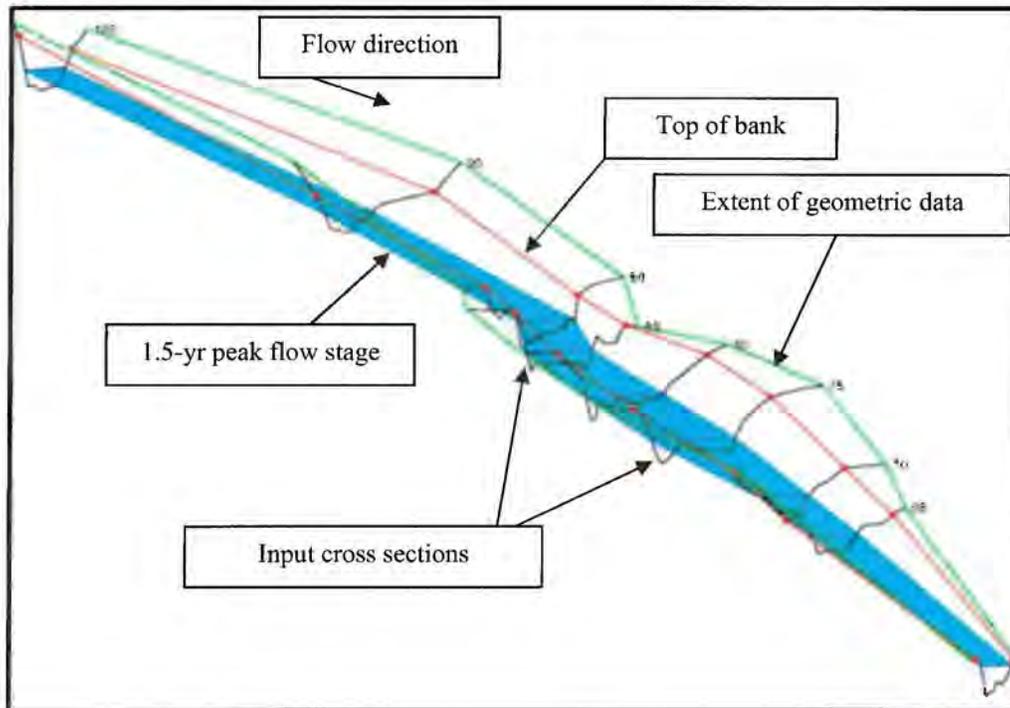


Figure 3. Hydraulic model output depicting 1.5-year peak flow water stage at surveyed cross sections.

Channel attributes of entrenchment ratio (i.e., the ratio of flood-prone width and bankfull channel width); bankfull channel width; width/depth ratio; and mean depth were calculated at surveyed cross sections within and outside the project reach using bankfull channel geometry quantified through morphologic survey and hydrologic and hydraulic analysis techniques. Channel attributes were used to identify the Rosgen channel type classification at each cross section (Table 1).

Table 1. Morphologic channel attributes and channel types along Bear Butte Creek.

Channel Conditions Within Project Reach					
Section ID	Entrenchment Ratio (ft/ft)	Bankfull Width (ft)	Width/Depth Ratio (ft/ft)	Mean Depth (ft)	Channel Type
XS 3	1.9	33	32	1.1	B
XS 4	1.6	46	39	1.2	B
XS 5	1.4	56	78	0.7	B
XS 6	1.5	60	41	1.5	B
XS 7	2.1	34	31	1.1	B
Average	n/a	46	44	1.1	n/a
Channel Conditions Beyond Project Reach					
Section ID	Entrenchment Ratio (ft/ft)	Bankfull Width (ft)	Width/Depth Ratio (ft/ft)	Mean Depth (ft)	Channel Type
XS 1 (upstream)	1.4	29	19	1.5	F
XS 2 (upstream)	>2.2	34	32	1.1	C
XS 8 (downstream)	>2.2	36	26	1.4	C
XS 9 (downstream)	>2.2	22	13	1.7	C
Average	n/a	30	23	1.4	n/a

Analysis results indicate that reaches of Bear Butte Creek proximate to the project area are comprised of both C-type and F-type channels. C-type channels are low gradient, meandering, pool-riffle dominated streams with slight entrenchment and high width/depth ratio. F-type channels are severely entrenched channels with high width/depth ratio that typically lack the ability to transport the available sediment load, and as a result, display signs of vertical and lateral channel instability. This combination of channel types is typical of impaired watercourses that experience severe erosion and aggradation at a broad scale, but display relative stability and functionality within sub-reaches.

The project reach displays morphologic attributes of a B-type channel that has moderate entrenchment and high width/depth ratio. This prevalent channel form is likely the result of the natural healing process that has occurred within the project area since the removal of unauthorized fill. At present, the project reach has an entrenchment ratio between that of F-type and C-type channels, but has high bankfull channel width, high width/depth ratio, and low mean depth when compared to proximate stream reaches.

A routine wetland delineation was performed within the project area in August 2014 in order to describe and quantify the extent of existing wetlands in the reach. Data associated with the delineation were collected from 3 sample plots and recorded in accordance with the 2010 USACE Regional Supplement methodology. Wetland boundaries were identified in the field and mapped with professional grade GPS equipment.

The wetland delineation results indicated that definitional wetlands were present within the project area. Geographic information system analysis of surveyed wetland extents revealed that approximately 0.3 acres (12,940 ft²) of riparian lands adjacent to Bear Butte Creek conformed to the definitional criteria for wetlands per the 1987 USACE Manual and the 2010 USACE Regional Supplement (Sheet 3).

The project reach of Bear Butte Creek has begun a natural healing process as the result of the removal of unauthorized fill material and the cessation of direct anthropogenic channel manipulation. Peak flow conditions recently experienced under the existing hydrologic regime have resulted in natural fluvial

processes of sediment movement and deposition. Depositional features have formed along the channel margins as inset floodplain benches, and these benches have been colonized by a diverse assemblage of pioneering wetland vegetation (Photo 1). These floodplain wetlands provide robust riparian habitat that adds complexity and diversity to the reach.



Photo 1. Recently formed floodplain wetlands along the project area reach of Bear Butte Creek.

The creek reaches immediately upstream and downstream of the project area exhibit substantially less floodplain wetland area, which is primarily due to the entrenched nature of the channel in these reaches (Photo 2.).



Photo 2. The entrenched F-type channel immediately upstream of the project area reach of Bear Butte Creek.

GOALS OF RESTORATION

The goal of site restoration is to achieve morphologic channel conditions similar to undisturbed proximate reaches of Bear Butte Creek. Unaltered reaches of Bear Butte Creek have average channel width of 30 feet, width/depth ratio of 23 feet, and mean depth of 1.4 feet. The project area reach currently has channel width of 46 feet, width/depth ratio of 44, and mean depth of 1.1 feet. The project area reach would achieve similar morphologic conditions to adjacent reaches as a result of floodplain bench expansion and vegetation encroachment into the existing channel. Channel narrowing is anticipated to occur naturally under the current hydrologic regime as a result of natural sediment deposition along the channel margins and vegetative colonization of newly deposited gravel. Channel deepening is anticipated to occur concurrently with channel narrowing because hydraulic processes maintain channel capacity for the bankfull discharge. Narrowing and deepening of the channel will result in channel morphology characterized by reduced width/depth ratio and enhanced fluvial processes associated with consolidated flows during low flow periods, increased depth cover, increased over head cover, reduced thermal inputs and cooler water temperatures, and higher quality aquatic habitat. Channel narrowing will also result in expanded wetland area and increased riparian vegetation in the project area.

Specific restoration goals are presented below and are referred to by number throughout the rest of the document during discussion of monitoring procedure, final success criteria, and contingency measures.

- Goal 1** Reduced bankfull channel width.
- Goal 2** Reduced bankfull channel width/depth ratio.
- Goal 3** No net reduction in wetland area.

A passive restoration approach will be employed to achieve restoration goals in order to avoid the direct impacts to aquatic conditions and existing vegetation that would be inevitable during grading and site manipulation associated with an active restoration effort. Furthermore, active restoration treatments such as floodplain bench construction or the installation of rock structures would have a high likelihood of failure due to the existence of inherently unstable and erosive F-type channel reaches upstream of the project area that have potential to shift vertically or horizontally during future peak flow events. Such changes in adjacent stream segments would alter sediment delivery to the project reach, and could promote aggradation or increase shear stress near active restoration treatment areas. Resulting changes in local channel dynamics could compromise installed treatments and require long-term maintenance activities, and prolonged disturbance regime associated with repeated maintenance or construction efforts.

MONITORING PROCEDURE

To monitor achievement of Goals 1 and 2, channel cross sections surveyed during the 2014 morphologic channel survey will be repeated and survey data analyzed to quantify bankfull channel width, bankfull channel mean depth, and bankfull channel width-to-depth ratio. Cross sections 3, 4, 5, and 6 are located within the project area reach and are depicted on Sheet 3. During the first annual monitoring effort, pins should be installed at the cross section terminus to monument endpoints throughout the monitoring period. The cross section survey extents should match the 2014 extents. A tape should be stretched from pin to pin, and station and elevation recorded with appropriate survey gear (GPS equipment, laser level, or traditional transit) at locations where discernable breaks in slope occur across the channel section.

The bankfull elevation should be surveyed within each cross section alignment. Bankfull should be identified in the field using the following indicators:

1. Presence of a floodplain at the elevation of incipient flooding;
2. Elevation of the top of the highest depositional features (point bars, central bars);
3. A break in slope of the stream banks;
4. A change in particle size distribution (fine material is deposited on the floodplain during inundation while coarse material that is transported within the active channel);
5. Evidence of inundation features such as small benches;
6. Staining of rocks or material along the channel margin;
7. Exposure of root material below an intact soil layer, indicating exposure to erosive flows; and
8. Edge of continuous perennial vegetation.

The channel thalweg and water surface elevation should also be surveyed through the project area reach to facilitate development of an updated HEC-RAS model during monitoring efforts. These analyses are necessary to determine or confirm bankfull elevation that was completed in 2014 when bankfull indicators were absent due to the occurrence of recent (anthropogenic and natural) changes in the channel form. Channel survey data repeated during annual monitoring efforts should be used to calculate morphologic channel attributes of bankfull width, bankfull mean depth, and width/depth ratio, as presented in Table 2.

To monitor achievement of Goal 3, routine wetland delineations (in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual and the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual) should be performed within the project area during each annual monitoring effort. Sample points will be established based on plant community type and topographical setting, and soils, hydrology, and vegetation will be characterized at each sample observation point.

In addition, four (4) permanent photo-points will be established within the project area. Digital photos will be taken annually at each photo-point, and photos will be included in each monitoring report. Efforts will be taken to ensure that photos are taken within the same general timeframe and under the same conditions each year.

Monitoring will occur annually for a minimum of 5 years in accordance with Federal Mitigation Rule requirements. The first monitoring effort will occur in the summer of 2015. Annual monitoring reports will be prepared and submitted to the EPA by October 1 of each year. Monitoring reports will include: a narrative of site observations; graphic and tabular presentation of morphologic channel survey (cross section) data; wetland delineation datasheets; photographs from each photo-point; identification of whether or not Goals 1-3 were achieved; and recommended adaptive management measures (if needed).

Table 2. Monitoring data sheet depicting existing, future, and target morphologic channel attributes at surveyed cross section locations.

Section ID	2014 Bankfull Width (ft)	2015 Bankfull Width (ft)	2016 Bankfull Width (ft)	2017 Bankfull Width (ft)	2018 Bankfull Width (ft)	Target Condition (ft)
XS 3	33					--
XS 4	46					--
XS 5	56					--
XS 6	60					--
XS 7	34					--
Average	46					36 or less
Section ID	2014 Mean Depth (ft)	2015 Mean Depth (ft)	2016 Mean Depth (ft)	2017 Mean Depth (ft)	2018 Mean Depth (ft)	Target Condition
XS 3	1.1					--
XS 4	1.2					--
XS 5	0.7					--
XS 6	1.5					--
XS 7	1.1					--
Average	1.1					--
Section ID	2014 Width/Depth Ratio (ft/ft)	2015 Width/Depth Ratio (ft/ft)	2016 Width/Depth Ratio (ft/ft)	2017 Width/Depth Ratio (ft/ft)	2018 Width/Depth Ratio (ft/ft)	Target Condition
XS 3	32					--
XS 4	39					--
XS 5	78					--
XS 6	41					--
XS 7	31					--
Average	44					31 or less

FINAL SUCCESS CRITERIA

Monitoring is an EPA-required aspect of this project because it provides a means by which to assess whether or not project objectives are achieved. A specific monitoring program has been developed in accordance with EPA standards and guidelines. Table 3 presents project goals, elements and duration of monitoring tasks, success criteria, and techniques to be employed if success criteria are not met in the allotted timeframe. Success criteria for each project goal are presented, and represent a quantitative desired condition to be achieved by the end of the 5th year of monitoring.

The 2014 morphologic survey included measurement of 4 cross sections outside of the project area in order to investigate unaltered, or reference, channel conditions. The average reference condition bankfull channel width was 30 feet, with standard deviation of 6 feet. The success criteria for Goal 1 reduced bankfull channel width within the project area is to achieve similar conditions to proximate reaches, which quantitatively equates to an average cross sectional width of 36 feet or less, which is one standard deviation greater than the reference average. Similarly, the success criteria for Goal 2 is to

achieve average width/depth ratio in the project area that is within one standard deviation of the reference average, or a value of 31 feet or less.

The project area exhibits more floodplain wetland area than proximate unaltered reaches, primarily due to the presence of recently formed low elevation bars and depositional features. Additional anticipated channel narrowing is not expected to reduce existing wetland area, and the maintenance of existing wetlands is important to the maximization of riparian and ecological conditions. The success criteria for Goal 3, therefore, is to achieve no net loss in existing wetland area (0.3 acres) throughout the monitoring effort.

Table 3. Project goals and monitoring duration, success criteria, and potential adaptive management techniques.

Goal	Element	Duration	Success Criteria	Adaptive Management Techniques
#1	Reduced Bankfull Channel Width	Annual Assessment, 5-year Duration	Average project area bankfull channel width within 1 standard deviation of the reference average (numerical value of 36 ft or less)	Construct inset floodplain; modify and stabilize bank alignment; install rock structures (e.g. cross vanes) to achieve desired channel geometry.
#2	Reduced Bankfull Channel Width/Depth Ratio	Annual Assessment, 5-year Duration	Average project area bankfull width/depth ratio within 1 standard deviation of the reference average (numerical value of 31 ft or less)	Construct inset floodplain; modify and stabilize bank alignment; install rock structures (e.g. cross vanes) to achieve desired channel geometry..
#3	No Net Loss in Wetland Area	Annual Assessment, 5-year Duration	0.3 acres or more of wetlands in the project area	Establish wetland vegetation on constructed floodplain; plan wetland plugs or sod.

CONTINGENCY MEASURES

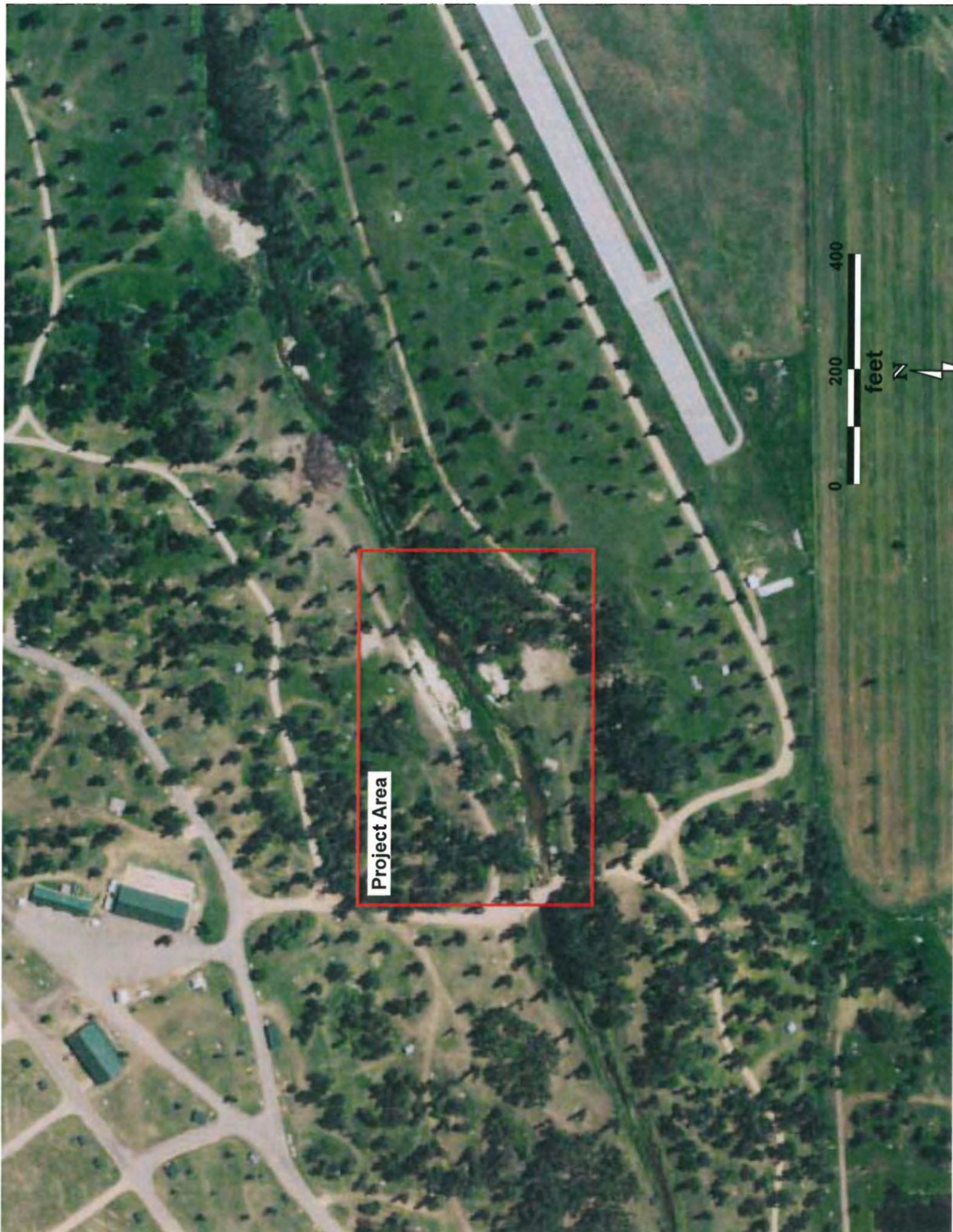
Adaptive management provides a mechanism for evaluating the existing condition of ecological resources in relation to stated success criteria, and to address unforeseen changes in site conditions that adversely affect the success of the project. Monitoring reports will identify any problems discovered in the project area, will recommend appropriate adaptive management, and will outline implementation of those activities. The EPA Consent Order Respondents will be responsible for implementing adaptive management measures as needed. If adaptive management is required, cost/benefit and feasibility analyses will be performed to determine which adaptive management technique(s) are the most appropriate. Suggested adaptive management techniques for each project goal are outlined in Table 3. Adaptive management strategies may include but are not limited to the following: implementation of bank stabilization treatments to achieve desired bankfull channel width; construction of inset floodplain, installation of rock structures (e.g. cross vanes) to achieve desired channel geometry; establishment of wetlands on constructed floodplain using plugs or sod; maintenance of a site enclosure fence to prevent additional site disturbance. Other adaptive management strategies may also be needed.

PROJECT COMPLETION

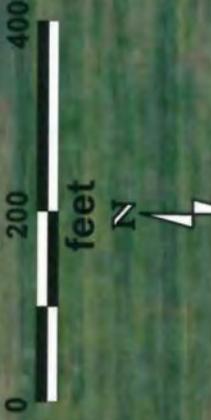
At the end of the 5-year monitoring period, a final report will be produced and will include a summary of each annual monitoring effort findings and a discussion of final site conditions in the context of the achievement of identified goals. Assuming project goals have been achieved, submittal of the final report to the EPA will signify completion of the monitoring requirements. Upon EPA review of the final report, the agency may require a site visit to confirm monitoring report findings.

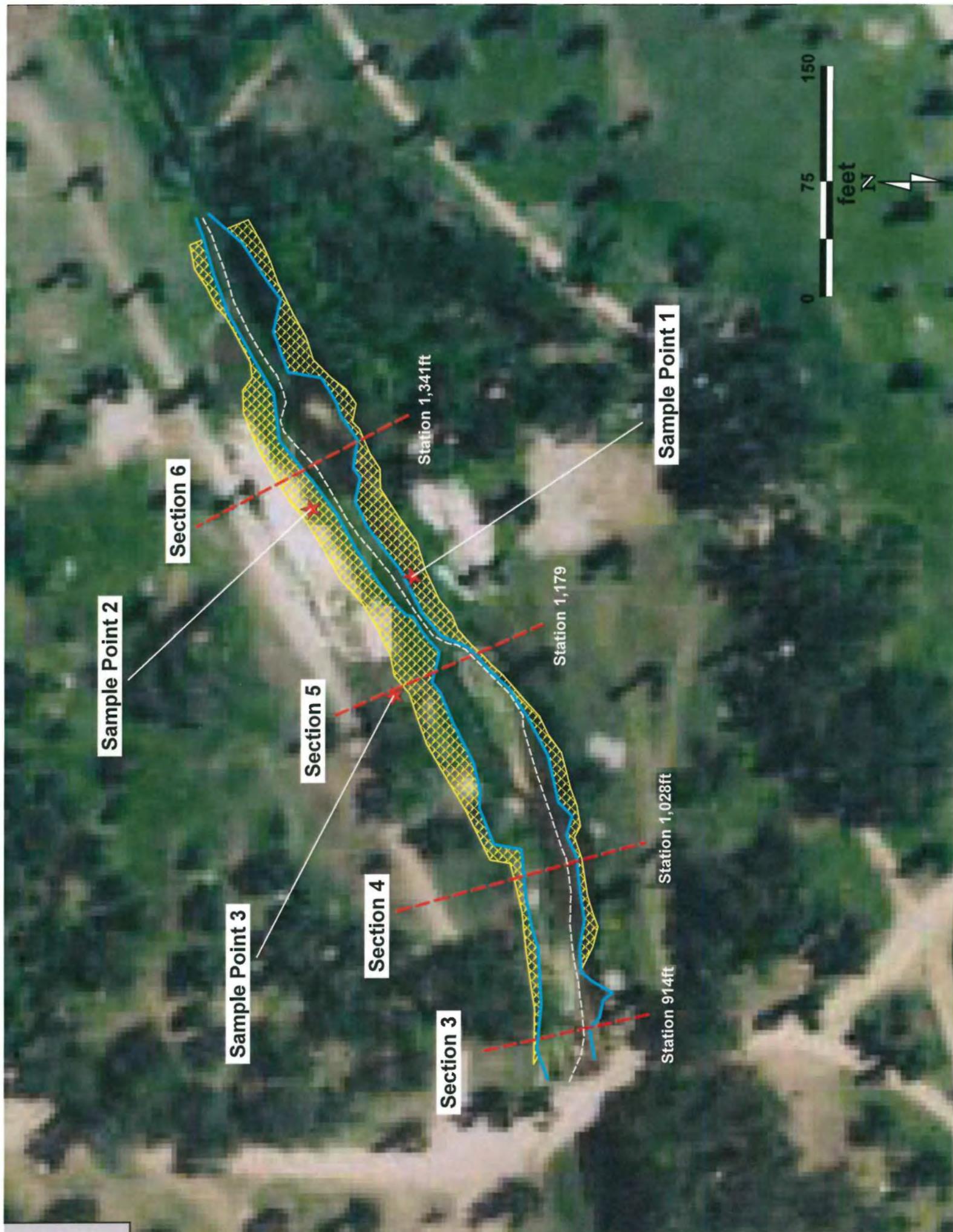
LIST OF ATTACHMENTS

- Sheet 1** Title Sheet, Monitoring Plan, Bear Butte Creek, Glencoe Camp Resort II, LLC, South Dakota
- Sheet 2** Project Area, Monitoring Plan, Bear Butte Creek, Glencoe Camp Resort II, LLC, South Dakota
- Sheet 3** Wetlands and Survey Layout, , Monitoring Plan, Bear Butte Creek, Glencoe Camp Resort II, LLC, South Dakota



Project Area





Sample Point 2

Section 6

Sample Point 3

Section 5

Section 4

Section 3

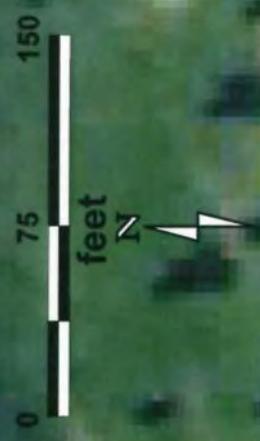
Station 1,341ft

Station 1,179

Station 1,028ft

Station 914ft

Sample Point 1



CERTIFICATE OF SERVICE

I hereby certify that on December 22, 2014, the foregoing Administrative Order on Consent in the matter of the Glencoe Camp Resort, Inc., Devorah A. Lopez, and Sean Clark was served via certified mail upon the following persons:

Devorah A. Lopez
15433 Sonnet Place
Hacienda Heights, CA 91745

Sean Clark
15433 Sonnet Place
Hacienda Heights, CA 91745

I further certify that on December 22, 2014, the foregoing Administrative Order on Consent was served via email upon the following persons:

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Dayle DeArvil