

# Appendix G

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**James Roscoe  
Consultants Report**

**A Cultural Resources Study of Proposed Gravel Extraction  
Areas on  
the Mad River, Humboldt County, California**

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## **Introduction**

During the months of January, February, and March, this Cultural Resources Investigation was conducted at the request of the Humboldt County Planning Department of ten sites proposed for gravel extraction along the lower Mad River. The Humboldt County Planning Department is preparing a Programmatic Environmental Impact Report (PEIR) which takes into account the potential adverse impacts of future gravel operations along the Mad River to significant cultural resources, among other variables. The County is the lead agency for the permitting of surface mining and reclamation and intends to prepare and publish this PEIR in conformance with the California Environmental Quality Act. The County is evaluating these ten sites along the lower reach of the Mad River from Hammond Bridge to the former Sweasey Dam site (see Map 1).

The purposes of this investigation were to (1) locate and record project area cultural resources; (2) to evaluate the significance of study area cultural resources; (3) to assess potential impacts to cultural resources resulting from instream gravel operations; (4) to recommend appropriate mitigation measures, if necessary.

The following people were instrumental in providing information which helped in the completion of this report:

Allan Bramlette, Professor, Humboldt State University

Rick Fitzgerald, Research Associate

Albert James, Chairman, Table Bluff Rancheria

## **Project Area Description**

The ten sites composing the project area are all located within the existing banks of the lower reaches of the Mad River, Humboldt County, California. These sites are shown on accompanying sections of the Arcata North, Korbel, and Blue Lake, 7.5', USGS topographic quadrangles (see Maps 2 and 3). The sites consisted of ten different gravel bars proposed for

future gravel extraction operations. The environment of the project area consisted of a riparian corridor associated with the Mad River. Adjoining land consisted of river terraces currently being used for agricultural purposes, gravel production, or for low density residential and light industrial purposes. The topography of the proposed sites was predominantly level to gently rolling.

### **Investigation Methods**

The background research for this project included an examination of the archaeological site records, maps, and project files of the Northwest Regional Information Center of the California Archaeological Inventory, located at Sonoma State University, Rohnert Park, California. This record search, which updated the author's base maps and site records for the project area, was completed on December 4, 1992. The Regional Information Centers have been established by the California Office of Historic Preservation as the local repository for all archaeological reports which are prepared under cultural resource management regulations. The background literature search at the appropriate Regional Information Center is required by state guidelines and current professional standards. Following completion of this archaeological study, a copy of this report also must be deposited with that organization. The literature search is undertaken to determine if there are any previously recorded archaeological resources or historic structures within the project area and whether the area has been included within any previous archaeological research or reconnaissance projects.

In addition to the above record search at Sonoma State University, additional research was completed using historic maps, historic photographs, local newspapers, historic books and monographs, and oral history testimony.

After completion of the above research, Albert James, Chairman of the Table Bluff Rancheria, was consulted regarding any specific Native American concerns for the project area. Mr. James visited the project area and the two prehistoric archaeological sites recorded during this investigation and shared his knowledge and concerns about Wiyot sites in the area.

Following the pre-field research, a mixed strategy archaeological field reconnaissance of the project areas was conducted. The field reconnaissance was completed during the months of January, February and March by James Roscoe, Kimberley Roscoe, and Rick Fitzgerald. During this field survey the proposed direct impact areas were walked in a series of transects. More intensive coverage was given to areas characterized by two or more of the following variables associated with predicted high archaeological sensitivity: undisturbed or natural soil surfaces, level terrain above the Mad River floodplain, presence of creeks and margins of valleys. Most of the proposed project areas were within the floodplain and consisted of gravels and silts deposited during winter freshets. Areas where the original ground surface was visible were closely inspected for signs of archaeological materials. The exposed banks of the Mad river were also examined for evidence of buried strata of archaeological materials.

Extant cultural resources were recorded on standard archaeological site record forms devised for California by the Department of Parks and Recreation. No artifacts were collected, and no subsurface testing was performed during this study.

### **Ethnographic Background and Land Use**

The project area is located within the ethnographic territory of the Wiyot Indians. The Wiyot at the time of White contact were divided into three principal groups, speaking a mutually intelligible language which differed markedly from the Athabaskan languages to the east and south and the Yurok language to the north. Although Yurok and Wiyot are both considered by linguists to be Algic languages, they are not closely related. A speaker of Wiyot can not understand the speech of a Yurok. The three subdivisions of the Wiyot were (1) the Patawat, who lived in the villages on the lower Mad River, (2) the Wiki on Humboldt Bay, and (3) the Wiyot along the lower Eel River (Elsasser 1978). It is the name of the Eel River division which is now used exclusively in accounts pertaining to the entire group.

With a population numbering somewhere between a low estimate of 1,000 by Kroeber (1925) and a high estimate of 3,300 by Cook (1956), the Wiyot lived almost exclusively in villages along the protected shores of

Humboldt Bay and near the mouths of the Eel and Mad Rivers. Villages consisted of dwellings which were rectangular in plan, made from split redwood planks. Associated with most Wiyot villages was a sweathouse used by Wiyot men for sleeping, gambling, and ceremony. With these villages as their base, the Wiyot were able to hunt and gather a wide variety of plant and animal resources within their territory. Mollusks, sea lions, and stranded whales were among the ocean resources utilized by the Wiyot, while deer, elk, and acorns constituted more important land resources. Perhaps the most important protein source for the Wiyot were the yearly anadromous fish runs on the Eel and Mad rivers, during which the Wiyot were able to smoke and store enough salmon to last through the winters when other food resources were not as abundant.

Although the Wiyot had contacts with White explorers and fur trappers prior to the California Gold Rush, it was this monumental event that was to change the character of northwestern California forever and lead to the decimation and displacement of the Wiyot in the short course of 15 years. From 1850 to 1865, the territory of the Wiyot became the center for the largest concentration of Whites in California north of San Francisco, due to the use of Humboldt Bay as a shipping point to the mines, the establishment of a redwood timber industry, and the homesteading of the Eel River and Arcata bottoms for ranching and farming purposes. The whites who came into Humboldt County in the 1850's, and 1860's were not known for their tolerance toward cultures other than their own, and many came from areas to the east where Indians were feared and hated. Soon after the first White settlements were established on Humboldt Bay, the Wiyot population was decimated by Euro-American violence and introduced diseases. Those who did not die from these causes were displaced from their villages (often located on the best plots of land) and driven to distant reservations or marginal lands within the Humboldt Bay region.

Ethnographic and archaeological data collected by L.L. Loud (1918) for Wiyot territory provides the best published record of prehistoric land-use of the project area. As shown on Map 4, Loud (1918; Plate 1) identified a number of Wiyot habitation and resource procurement sites within or near the present study area. Loud had only a limited amount of time for his fieldwork in this area. He describes his methodology as follows:

*Most of the modern village sites on Mad River, from its mouth to Blue Lake, were located by the help of Aleck Sam...We drove up one side of the river in a wagon, the sites being pointed out as we passed them. This was done in one day's time, so only in a few cases did we get out of the wagon to take a look at the exact spot. (Loud 1918:276).*

Loud made the following comments regarding the Wiyot population density and settlement pattern in the project vicinity starting at the bend of Mad River between site 7B and site 8:

*This was a very thickly settled district, with many villages so close together that, at the present time, it is difficult to identify them with the names of sites secured from native informants. Site 9, containing a considerable bed of shell, was the only one of these sites actually visited and located by the writer. It is located on the ranch of W.E. Clark, about the center of the southeast quarter of section 17, township 6 north, range 1 east. It becomes necessary to thus definitely locate this place, because there has been such a great change in the course of the river here, which formerly made a bend of over a mile to the south of its present channel. However, this change seems to be due to a definite local cause rather than to any general migratory character of the river bed, such as we find in the delta of Eel river. Mad River has a fairly definite channel.*

*The cause of the formation of this great bend seems to be revealed in the description of site H. Here a tremendous jam of logs had been piled up by winter floods. It is possible that some generations ago, before the log jam was formed, the river had a straight channel as a present, but that owing to the obstruction the river had to find a new channel. The bend to the south ran shallow, so that fish could be easily taken during the semiannual run, hence the unusually large population in the vicinity. The Indians burnt the jam at site H one summer. After that the place was a noted feeding ground for elk. There was also a good place for taking eels and salmon near this village, yet it contained only three houses within the memory of Aleck Sam. After the whites came, they cut a ditch across the peninsula-like bend, and the force of the current ripped out a new channel, tearing out great trees and straightening the river once more.*

*...From pioneers living in Arcata, the following information was*



*obtained regarding the group of villages about the bend of the river. One stated that there were probably twenty houses, including one sweat-house, covered with earth, within two hundred to three hundred yards of each other, situated on both sides of the river. Another said that about all the Indians of this vicinity lived on an area of thirty acres. A third informant, who was often present at their dances, estimated that two to three hundred indians gathered at their summer festivities, erecting very large conical bark and brush houses. At such times the square plank houses were but few in comparison to the temporary conical houses .*

*...scattered along the river, between the bend and Blue Lake, there were half a dozen small villages or camps. That is, about every mile there was an Indian house or two. High hills flanked both sides of the river, and the forest was dense, so population here was not large. But near Blue Lake the conditions were more favorable. There was here a valley, formed by the junction of the North Fork with the main river, which contained several patches of prairie...besides the more extensive ones on the ridges. There were good fishing holes on the North Fork where the Indians regularly camped...Another fishing place was.... at the base of a waterfall blocking the advance of salmon (Loud 1918:261-264).*

In summary, it is probable that fish resources made the study area attractive for resource procurement and settlement. Prehistoric-era archaeological remains which might be preserved in the study area include concentrations of chipped and ground stone artifacts found in poorly developed midden and non-midden contexts. These sites would most likely be found on elevated terraces situated near the river, creeks, or springs. The gravel bars which constitute the majority of the direct impact areas would not have been archaeologically sensitive because any prehistoric sites or artifacts located there would have been completely destroyed or carried away by previous major floods (especially those in the decades of the nineteen-fifties, and sixties ).

## **Historic Overview**

Early exploration along the northern coast of California included ships under the British, Spanish, and Russian flags, with the first recorded

landing at Trinidad by the Spanish in 1775. Captain Jonathan Winship, master of the ship "O'Cain" and under contract with the Russian-American Company, entered the Bay in 1806 with Aleut hunters in search of sea otters. Finding the hunting poor, their stay was short and it was another 43 years before the Bay was "rediscovered" by a land party in December 1849. Under the leadership of Dr. Josiah Gregg, the party of eight, which included L.K. Wood who left record of the expedition, came westward from the mining district on the North Fork Trinity River in search of Trinidad Bay. After an arduous journey, the party reached the coast near Little River after a short excursion northward, turned back and proceeded down the coast, eventually reaching the shores of Humboldt Bay (Lewis, 1943). Wood's narrative describes the party's encounter with Mad River:

*Little River was soon recrossed after which nothing occurred to interrupt our progress until we reached another stream which was then a large river being swollen by the heavy rains. Its banks ran full and its waters near the mouth appeared deep and moved so slowly and gently that we concluded that it must be a navigable stream. Our next difficulty was to cross this river. Here the harmony that had existed for so short a time was again disturbed. The Doctor wished to ascertain the latitude of the mouth of the river, in order hereafter to know where it was. This was of course opposed by the rest of the company. Regardless of this opposition he proceeded to take his observation. We were equally obstinate in adhering to the determination of proceeding without delay. Thus decided, our animals were speedily crossed over and our blankets and ourselves placed in canoes--which we had procured from the Indians for this purpose--ready to cross. As the canoes were about pushing off the Doctor, as if convinced that we would carry our determination into effect and he be left behind, hastily caught up his instruments and ran for the canoe, to reach which, however, he was compelled to wade several steps in the water. His cup of wrath was now filled to the brim; but he remained silent until the opposite shore was gained, when he opened upon us a perfect battery of the most withering and violent abuse. Several times during the ebullition of the old man's passion he indulged in such insulting language and comparisons that some of the party, at best not too amiable in their disposition, came very near inflicting upon him summary punishment by consigning him, instruments and all, to his beautiful river. Fortunately for the old gentleman pacific councils prevailed and we were soon ready and off again. This stream in*

*commemoration of the difficulty I have just related we called Mad River (Lewis, 1966 pp.134,135)*

With the party's arrival in Sonoma County, without Dr. Gregg, who perished on the trip, news spread quickly about the Bay and the first settlement companies reached its shores in April 1850. The towns of Union (Arcata) and Eureka were established on the Bay along with a number of outlying communities. On lower Mad River, the bottomland provided rich soils for growing grains and potatoes, the first agricultural products of the area; in time, however, cultivated crops gave way to the dairy industry, which continues as a major land-use in the Bottom.

Mad River was an important part of this area's daily life: it flooded periodically, it had to be crossed to go up the coast or inland to Trinity, it had a significant fishery, and its banks were lined with a dense forest of immense trees. A description of the lower river in 1878 is found in a local newspaper:

*Mad River runs in a northwesterly direction and empties into the Pacific Ocean about a mile north of the sloughs of Humboldt Bay. The first three miles of the south side of the river from its mouth is what might truly be termed river bottom land, very rich and mostly covered with goose thimble and salmonberry brush, willow, dogwood, and a few spruces interspersed (enough of either to make a full crop in any other country) though there are some fine farms under cultivation in this section. This portion is a part of what is commonly called Arcata valley.*

*The next sixteen miles up the river on the south side is redwood timber, with the exception of a few small farms. The belt extends to the tops of the ridges, which on an average are about four miles, making about sixty-four square miles of redwood timber yet to be rolled into Mad river from the south. The next sixteen miles up the river on the same side are fir and mountain oak, but only extends about two miles back....*

*The first three miles on the north side of the river from its mouth is a strip of land averaging about one-half mile in width of excellent quality covered with the same growth as the south side opposite with the exception of three or four cultivated farms....*

*Sixteen miles further up the stream will embrace first the Lindsey creek tributary, the mouth of which one of Humboldt county's enterprising citizens dammed thereby forming a large basin of water for logging purposes. At this place he has his shingle and sawmills and machinery for hauling up logs for loading his cars which are taken by a genuine locomotive over his own iron road some four miles down the river on the north side, then it crosses the stream on a substantial bridge runs one mile further to the tidewater of Humboldt Bay.*

*This Lindsey creek is about eight miles long and runs in a southeasterly direction. Its watershed is almost entirely covered with redwood timber and embraces thirty-two miles. The next order is the North Fork of Mad river which also runs in a south-easterly direction and empties into the main river about six miles above Lindsey creek...(Daily Standard, 19 Jan. 1878).*

The river and its watershed have been subjected to a variety of management activities dating to the earliest days of settlement. One of the first was the construction of 1854 of the Mad River Canal, which it was believed would take "almost the entire stream" and become the permanent bed of Mad River (HT, 2 Dec. 1854).

This half-mile long canal connected the river with Mad River Slough and was first used in 1858 to bring logs into the bay for transport to Eureka mills (HT, 1 May 1858). There were problems from the outset with the canal and the idea of "driving" logs down the river. During high water, logs, debris, and sediment spilled over the banks of the canal and were deposited on bottomland ranches and without a structure to catch fast-moving logs and divert them into the canal, millions of feet of timber were swept to the ocean (WHT, 4 July 1874; 18 Aug. 1877). Several attempts were made to construct a boom to withstand huge redwood logs coming downstream on a fast current, but they were "carried away" as were the logs (WHT, 7 Nov. 1874; 28 Nov. 1874). In the spring of 1876, the State Legislature authorized construction of a boom which was completed in October 1877 at a cost of \$11,000 (WHT 11 March 1876; 6 Oct. 1877). There was considerable local controversy over the boom, but to the credit of the builders, it lasted four years. In December 1881, it broke after 600 logs had been turned into the canal, sending an additional 800 to the ocean (WHT 31 Dec 1881). The newspaper noted that "thousands of logs are on the beach near the mouth of the river, where the waves left them," (WHT,

14 Jan, 1882). With the extension of the Arcata and Mad River Railroad to Warren Creek in 1882 and to Blue Lake the following year, the need for river driving passed and people began to call for closure of the canal (WHT, 22 April 1882; DTT, 8 May 1883; WHT, 26 Feb. 1881.). The Harbor Commissioners finally ordered the canal's closure which was completed in 1888 after considerable public complaint about the filling in of the north bay and damage to farmland on Arcata bottom (AU, 31 July 1886; 14 Aug. 1886; 10 Sept. 1887; 21 July 1888). Physical evidence of the canal is still visible near Tyee City on the Mad River Beach Road, almost 140 years after it's original construction.

The "fine timber" on Mad River was the object of limited logging as early as 1858, when a Mr. Lakin began bringing logs down the river and through the canal (HT, 1 May 1858). A freshet in the fall of 1859 resulted in the loss of about 200,000 feet of saw logs belonging to Lakin and about the same quantity belonging to Mr. A. Handy (NC, 16 Nov. 1859). Certainly there were other small operations on the river, but it wasn't until 1874 that the "initiatory step to logging business on a grand scale" on Mad River began on the Preston claim, four and a half miles from Arcata (WHT, 4 July 1874). Messrs. Jackson and McCann had logged the previous year on a claim nearer the mouth of the river, putting the first logs into the Bay that came from above tide water (WHT, 4 July 1874). These gentlemen's first efforts opened the logging floodgates and the following year, 1875, John Vance completed the Big Bonanza mill at Essex and built a railroad from the mill to the Arcata wharf. As part of this development, Lindsey Creek was dammed near its mouth to create a logging pond that filled the lower reaches of the Essex Valley (WHT, 18 Sept. 1875). The Vance railroad, known as the Mad River and Humboldt Bay Railroad, cost \$15,000 per mile including the Baldwin locomotive and 24 truck cars, upon which was transported each day "immense logs and large quantities of lumber" which added up to about 20 million feet per year (WHT, 14 Dec. 1878). In writing about Vance's railroad, A.T. Hawley noted that Vance was contemplating extension of the road eastwardly to the "dense redwoods on Mad River (and they were a sight to behold) and northeasterly to the splendid timber on Little River." The Vance road crossed Mad River on a Howe Truss bridge with two spans of 120 feet each, built by the Pacific Bridge Company at a cost of \$10,000 (WHT, 14 Dec. 1878). The location of that bridge is uncertain, but the railroad apparently came downstream from Essex on the north bank, crossing below the present Highway 101 bridges (WHT, 26 Feb. 1881).

In July 1881, the Arcata and Mad River Railroad was incorporated for the purpose of extending the railroad from its terminus at the Dolly Varden Mill on Janes Creek to the new Minor mill on Mad River at Warren Creek. This extension of the Arcata Transportation Company's road, which ran between the Dolly Varden Mill and the Arcata Wharf, was to eventually reach the North Fork Mad River (WHT, 23 JULY 1881; 20 Aug. 1881). Chinese laborers were employed at a wage of \$1.25 per day to construct the initial three-and-a-half miles to the Warren Creek Mill, which produced its first lumber in December 1881 (WHT, 20 Aug. 1881; 17 Dec. 1881). In March of 1883, the Arcata and Mad River Railroad became the property of the Korbels Bros. and the railline was again extended to serve the new Chandler Mill in Blue Lake and then up the North Fork to the Korbels' mill (DS, 31 March 1883; DTT, 5 May 1883; DS, 1 Sept. 1883). The railroad crossed Mad River at Skedaddle, just above the mouth of Lindsey Creek, and then followed the river on the north side to Blue Lake. The bridge consisted of three spans with a total length of 500 feet and stood 33 feet above low water (DTT, 7 April 1883). The Korbels' mill began cutting lumber in earnest in the fall of 1883 (DS, 3 Nov. 1883). Chandler built another mill, known as the Riverside Mill, at the mouth of the North Fork in the spring of 1886 (DHS, 27 Feb, 1886; 3 May 1886). Sometime between the springs of 1885 and 1886, Isaac Minor built another mill at Glendale on Hall Creek (DHS, 30 April 1885; 3 May 1886). A note in the Arcata Union in August 1886 stated that between Arcata and the North Fork, 700 men were at work in the mills and woods (AU, 14 Aug. 1886); a year later 1,000 were working in this same stretch (HS, 24 Aug. 1887). The railroad served four mills in 1883 and during that year transported almost 12 million feet in lumber, eight million shingles and 175,000 shakes (HS, 17 Jan. 1884).

In 1888 the Arcata and Mad River Railroad Company let a contract to the San Francisco Bridge Company to build a bridge across Mad River on the site of the existing bridge (AU, 21 Jan. 1888). A tragic accident on that bridge in 1896 resulted in the death of seven people and many injuries (AU, 19 Sept. 1896). The bridge was repaired and used until 1914, when a new steel bridge was constructed at the "immediate site of the present wooden railroad bridge" (AU, 25 June 1914). The new bridge consisted of three spans of 165 feet each with solid re-inforced concrete piers resting on a platform of 70 spiles drive down to bedrock; the gravel was excavated to a depth of about 15 feet below low water and the concrete work extended down that far. Although the wooden bridge was in perfect condition, it

was demolished after the new bridge was constructed a few feet downstream (AU, 25 June 1914).

In 1903 the mills at Korbelt and Riverside was consolidated along with the railroad under the new firm known as the Northern Redwood Company (AU, 7 Feb. 1903). In 1956, Simpson purchased the Northern Redwood Lumber Company (AU, 3 Feb. 1956) and continues to operate the Korbelt mill, retooled as a second-growth mill in the early 1980's. Simpson has logged an extensive area in the Mad River watershed over the past decade.

In the spring of 1896, the Vance railroad, known as the Eureka and Klamath River Railroad, was constructed between the Lindsey Creek possession of Dolbeer and Carson to the new mill on the Peninsula at Samoa (AU, 16 May 1896; 13 June 1896). The Humboldt Northern Railroad was completed in 1905, crossing Mad River where the present Hammond bridge is located (AU, 24 June 1905). The Little River Redwood Company, later Hammond, Georgia Pacific, and now Louisiana Pacific, extended the line from just north of this river crossing up the beach to Crannell in 1929 in order to transport logs directly from its Little River possession to the mill at Samoa (AU, 24 Jan. 1929).

Travel from Humboldt Bay northward up the coast and eastward to the Trinity and Hoopa Valley involved river crossing. Ferries, conducted at various points on the lower river, were subject to the vagaries of storms and high water. As the result of one "freshet" in the fall of 1859, Mr. Hale's ferry boat was carried down stream and lodged "high on a drift pile" and the Nixon ferry boat went "out to sea" (NC, 16 Nov. 1959). The call for a bridge across Mad River began to be heard again and again.

*Impressing the claims of the people of this and the northern portion of the county, for a bridge across Mad River, we have several times referred to the amount of travel that goes that way. Since last Sunday morning more than one hundred and twenty-five loaded pack mules have left here for the mountain travel, all of which has to be unloaded and reloaded on the other bank and the animals swim the river, incurring the risk of loss of life to both man and beast and still these men had to pay as much taxes as if they had the convenience and safety of bridge they are so justly entitled to. There is no place in the county where a bridge is so much needed as at Mad River, near the Prigmore place and no route in the county where so much valuable freight passes over and is exposed to so much risk....(DS, 15 May 1880).*

That first bridge was completed in the fall of 1883, clearing low water by 33 feet and allowing a sweep of 275 feet between the piers. It was a "gratifying event" to people living in the northern and eastern portion of the county and to the constantly increasing travel to the Trinity and Salmon river mines (DS, 27 Oct. 1883). Wooden, covered bridges were built as crossings with the first steel truss spans on concrete piers appearing in 1929 as part of the final construction phase for the Redwood Highway (AU, 21 March 1929).

The first settlement in the Blue Lake area was actually at Scott's Ranch, somewhat north of the present community. By 1871 Scottsville, located seven miles from Arcata, had a hotel, school, blacksmith shop, a good wagon road, 45 voters, and the landscape was dotted with "neat, comfortable houses" (HT, 5 Aug. 1871). Located on the trail leading eastward to Trinity River county and Redwood Creek valley, Scottsville provided services and accommodations for this segment of the traveling public and its importance didn't begin to fade until the mill development and railroad of the early 1880's shifted the focus to Blue Lake. By 1886, Mr. Chartin, owner of the Blue Lake property, was proceeding in a "satisfactory manner" to develop a "thriving village" by laying out streets and lots to provide for the families of men engaged in lumber operations on Mad River (AU, 25 Dec. 1886).

Another significant development on Mad River were the granite rock quarries, one located up Warren Creek belonging to Isaac Minor, and the other on the north side of the river near Hannah's Crossing, which was about where the present 101 crossing is in the south half of the northwest quarter of the southeast quarter, section 8, 6N1E. In 1884, 2,000 tons of granite from the Hannah quarry were used in the construction of the Seal Rock Lighthouse off Point St. George at Crescent City (HS, 5 June 1884). Master stonecutter James Greig, who operated a granite works at Hannah's opined that this granite was the "best in the world" (FE, 27 Sept. 1898). Granite from the Minor quarry was used in the construction of his own masoleum in 1909; in various construction projects, including houses in Arcata; and in the reconstruction of the North Jetty in 1920 (AU, 9 Oct. 1909; 6 Aug. 1910; 1 Oct. 1914; and HT, 28 Sept. 1920).

Mad River flooding and channel changes since Euro-American settlement were recorded to some degree prior to aerial photography. References in local newspapers noted the more extreme flood events and



the impacts of those events on property, particularly along the lower reaches of the Mad River. A reference in 1857 noted that Mad River "came over the bottom" for the first time since the winter of 1852-53 (HT, 21 Feb. 1857). A "freshet" in the fall of 1859 resulted in bottomland flooding, the third such event recorded in the first nine years of settlement.

*The Freshet--the storm of the preceeding week reached its greatest intensity on Thursday evening last. Up to this time, the rain had fallen heavily and steadily. Owing to the absence of snow on the mountains, this early in the season, the falling water was precipitated from the hillside into ravines and gulches, swelling the mountain streams and raising Mad River two feet higher than ever before known to white man. Overflowing its banks, the water spread over lowlands, flats, and marshes, filling sloughs, submerging and carrying off bridges and fences with a strong and steady current of four miles per hour till it met and mingled with the incoming tide. On Friday morning the view from the hill, beyond town, was novel. The prairie lying close to Mad River, nearly all submerged, presented the appearance of a vast lake--its placid surface broken only by the ripple of fences. At the house of D. Martin the water stood a foot in depth, flooding the lower rooms and wetting 300 to 400 bushels of wheat in bins at his barn. The damage done to loggers was the most serious. Mr. Lakin lost about 200 M feet of saw logs and Mr. A. Handy about the same quantity--estimated at \$5 per M. The ferries on Mad River suffered considerably--Hale's ferrry boat carried down stream and lodged high on a drift pile; John Nixon's ferry boat carried out to sea. With the falling of the River on Friday morning the roads in the vicinity were choked with drift wood and blocked by immense logs and trees...(NC, 16 Nov. 1859).*

But the big storm hit the entire northern California area in late 1861, causing considerable damage.

*Storm and Freshet--We have been favored with a number of rainy days previous to Monday last, but on that day rain set in earnest and for 60 hours poured in torrents. By Wednesday noon the waters of Mad River were eighteen inches higher than ever before know to white man. The bottom lands west and north of Arcata were submerged; fences, bridges, and out-houses were swept away, which will require an expenditure of thousands of dollars to replace. It is estimated that*

*over a half million feet saw-logs--belonging to various parties--were swept from the sloughs and booms, out to sea.....(HT, 30 Nov. 1861).*

*Letter from Arcata, Dec. 6th, 1861, Editor Times--In your last week's issue you made brief mention of the freshet that reached its highest point on Wednesday morning, at that time the water was considerably higher than ever before known. The rain ceased on Tuesday night and by Wednesday Mad River was again 'confined to its bed' and our citizens concluded that the flood of the season was past, but on Thursday and Friday the windows of heaven were again opened and continuing to pour, on Saturday the river now truly Mad, again rushed over its banks and submerged our prairie. The water continued to rise till dark Sunday night, at which time it was much higher than the oldest inhabitants had ever before known....*

*Mad River swept over out bottom land to the bay with great force, carrying with it fences, bridges, and all moveable objects with which it came in contact, the soil in many fields was washed off for several inches in depth and deposited on the neighboring farms or carried into the sloughs, while on some places were left banks and bars of gravel and sand several feet in depth....*

*The four bridges on the stream passing near town were washed away, cutting off for a time all communication with the county except by boats. Thousands of acres were flooded and there are but few of our farmers that did not suffer some loss....*

*Although it has been a remarkable freshet and destruction of much property. It is difficult yet to estimate the loss, but thousands of dollars would be required to replace the damage sustained. The people will necessarily be greatly inconvenienced during the winter by the loss of bridges, etc. Such an inundation was never before known, and we hope its equal may never visit us again (HT, 7 Dec. 1861).*

The following summer, farmers on Arcata bottom began to consider the danger that threatened them each winter and decided on a "little simple engineering" at a "trifling expense" to change the channel of the Mad River. A ditch was cut, commencing near Shaw's crossing (near the middle of the north line of section 16), to divert the river from its old channel to one farther north, reconnecting with the old bed "some miles