

UPPER COLUMBIA RIVER, WASHINGTON.

LETTER

FROM

THE ACTING SECRETARY OF WAR,

TRANSMITTING,

*With a letter from the Chief of Engineers, report of the examination of  
Upper Columbia River, Washington.*

DECEMBER 7, 1892.—Referred to the Committee on Rivers and Harbors and ordered  
to be printed.

WAR DEPARTMENT,  
*Washington, December 5, 1892.*

SIR: I have the honor to inclose herewith a letter from the Chief of Engineers, dated December 5, 1892, together with a copy of a report from Capt. Thos. W. Symons, Corps of Engineers, dated October 12, 1892, of a preliminary examination of Upper Columbia River, Washington, from the international boundary to Rock Island Rapids, made by him in compliance with the provisions of the river and harbor act of July 13, 1892.

Very respectfully,

J. M. SCHOFIELD,  
*Major-General, Acting Secretary of War.*

THE SPEAKER OF THE HOUSE OF REPRESENTATIVES.

OFFICE OF THE CHIEF OF ENGINEERS,  
UNITED STATES ARMY,  
*Washington, D. C., December 5, 1892.*

SIR: I have the honor to submit the accompanying copy of report, dated October 12, 1892, by Capt. Thomas W. Symons, Corps of Engineers, of the results of a preliminary examination of Upper Columbia River, Washington, from the international boundary to Rock Island Rapids, made to comply with requirements of the river and harbor act approved July 13, 1892.

Capt. Symons states that, in his opinion, there are two portions of the river within the limits named that are worthy of improvement by the General Government—one is from Little Dalles to the international boundary line, a distance of 15 miles, and the other is from the head of Rock Island Rapids to Foster Creek Rapids, just above the mouth

of the Okanogan, a distance of 90 miles, and he submits an estimate of \$4,000 as the amount required to make necessary surveys to prepare plan of improvement of the latter section.

His views are concurred in by the Division Engineer and by this office. Very respectfully, your obedient servant,

THOS. LINCOLN CASEY,  
*Brig. Gen., Chief of Engineers.*

Hon. S. B. ELKINS,  
*Secretary of War.*

PRELIMINARY EXAMINATION OF UPPER COLUMBIA RIVER, WASHINGTON,  
FROM THE INTERNATIONAL BOUNDARY TO ROCK ISLAND RAPIDS.

UNITED STATES ENGINEER OFFICE,  
*Portland, Oregon, October 12, 1892.*

GENERAL: I have the honor to submit the following report of a preliminary examination of "Upper Columbia River, Washington, from the international boundary to Rock Island Rapids."

It was not found necessary at the present time to make an actual examination of the entire portion of the river named, either in person or by an assistant, for the reason that in 1881 I made a personal examination and reconnaissance survey of the river, and during the past two years the river from the international boundary line to the mouth of the Okanogan has been carefully surveyed under the direction of this office by Mr. William Cuthbert, who also traversed the remaining portion of the river from the mouth of the Okanogan to Rock Island Rapids. The maps and a full report on this portion of the river will be sent to you in a short time. I did, however, make a personal examination of that portion of the river at present navigated from the international boundary line to the Little Dalles.

DESCRIPTION.

The Columbia River from the international boundary line to Rock Island Rapids is 294 miles in length. It has an average fall of about 2½ feet per mile, a low-water discharge of 50,000 cubic feet per second, and a high-water discharge of 300,000 cubic feet per second. The average velocity of the current is 3½ miles per hour; in many places this increases to 8, 10, 12, and even 15 miles per hour.

Throughout the river, as far as ascertained, there is generally ample depth of water for purposes of navigation.

The portion of the Columbia from the international boundary line to the mouth of the Spokane River passes through a mountainous, wooded country with, however, much fine agricultural land. From the Spokane to Rock Island Rapids the timber becomes less in quantity. This portion of the river incloses, on the north and west, the famous "Big Bend" country, one of the choicest agricultural sections of Washington, and of which Davenport, Wilbur, Almira, Coulee City, and Waterville are the principal cities. The Okanogan, coming in from the north, has in its vicinity mines of gold, silver, and lead of great extent and richness, besides large areas of agricultural and grazing lands. At the outlet of Lake Chelan, a thriving town has been started; there are steamers running on the lake, and the country about the lake is rapidly settling up. Wenatchee, at the mouth of the Wenatchee River, is becoming a place of importance, and the population of the "Vale of Wenatchee" is rapidly increasing.

RAILROADS.

Two railroads reach the Columbia in the portion of its course under consideration. One, the Spokane and Northern, starts at Spokane and runs northerly, striking the river at Kettle Falls, and then running along the left bank of the river as far as Little Dalles.

The second, the Great Northern Railroad, runs from Spokane westerly, reaching the Columbia at Rock Island Rapids, thence running northerly along and across the Columbia and up the Wenatchee River and over the Cascade Mountains to Puget Sound. This road is not yet completed, but work is progressing as rapidly as possible, and it is expected that it will be completed within a year.

NAVIGATION.

The present navigation of the Columbia River, in the section under consideration, is limited to two stretches. First, from the northern terminus of the Spokane and Northern to the international boundary line; and, second, from the head of Rock Island Rapids to the mouth of the Okanogan and vicinity. From the Little Dalles there is a line of steamers running up the Columbia to Revelstoke, on the Canadian Pacific Railroad, and connecting at Robson with the railroad up the Kootenai River to Nelson, on Kootenai Lake. Between the mouth of the Okanogan and Rock Island Rapids a steamer is plying. This is a part of a route from Ellensburg, on the Northern Pacific, via wagon road, to the Columbia above Rock Island, thence by river to the mouth of the Okanogan. As soon as the Great Northern is completed and in operation this portion of the river will furnish the commercial highway from and into the great Okanogan mining, agricultural, and grazing region, and will furnish a needed outlet for a large part of the Big Bend country.

It is my opinion that the Columbia River from the international boundary line to Rock Island Rapids is worthy of improvement to a limited extent. A pretty thorough knowledge of the river and a careful study of all transportation and economic questions connected with it convince me that this river can not, at least in the near future, become a through highway of commerce upon which will be transported the products from and supplies to the region drained by it. There are too many things against its ever occupying this high position in the world of commerce. These may be summarized as the obstructions, such as rapids and falls of greater or less magnitude, which can only be passed by expensive canals and locks, boat railways, or portage roads; the many lesser rapids, where auxiliary power or lining would be necessary; the generally swift currents, requiring a large expenditure of fuel to surmount, combined with a lack of fuel and high cost of the same; the economic character of the country in the immediate vicinity of the river, which is of such a nature as to furnish or promise but little local business; the topographical character of the river and its immediate vicinity, which will render it difficult to get to and from the fertile regions above it, for it must be remembered that the Columbia flows through a great cañon or depression from 2,000 to 3,000 feet and more below the general level of the country drained by it, and the dangers which boats must ever take in navigating many portions of its course. The function of the Columbia in this upper portion of its course in the commercial world is and will be, at any rate for many years, that certain portions of it will be navigated as feeders to railroads. As such, cer-

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s of the river will be of great value, and can well receive a of the General Government.

as previously stated, two portions of the river that are now, and upon which it is a matter of little doubt that the will greatly increase in the near future. One is from Little Dalles to the international boundary line, a distance of 15 miles, and the other is from the head of Rock Island Rapids to Foster Creek above the mouth of the Okanogan, a distance of 90 miles. These two sections of the river which are recommended as at present for improvement by the General Government. For the first section no further survey is necessary, it having been included in the survey made by Mr. Cuthbert. This survey shows that at three points there is a need of work: At Two Mile, Steamboat, and Sheep Creek Rapids.

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mouth of the Okanogan to Rock Island Rapids a survey is recommended to determine the extent of obstruction and character of the same. To make this survey on the same plan as that of the river above mentioned requires an expenditure of \$4,000.

One of the links in the line of communication between the Columbia and the international boundary is a link in the line of communication between the Canadian Pacific Railroad at Revelstoke and the Great Northern, Northern Pacific and Union Pacific Railroads at Spokane, and incidentally by the Columbia and Kootenai Railroad with the Kootenai Lake and the Great Northern Railroad at Bonners Ferry.

The importance of the route for the transportation of supplies into and out of the great and rapidly developing mining centers of the Upper Columbia, Kootenai, and Kootenai regions.

The portion of the Columbia in British Columbia, to the south of the international boundary, the Dominion Government last year expended \$19,000 for the improvement of the river. This was mainly expended at two points, one at Bonners Ferry and the other at the Kootenai Rapids.

I am, respectfully, your obedient servant,

THOMAS W. SYMONS,  
*Captain, Corps of Engineers.*

THOMAS L. CASEY,  
*Chief of Engineers, U. S. A.*

Col. G. H. Mendell, Corps of Engineers, Division Engineer,  
(in charge.)

[First indorsement.]

U. S. ENGINEER OFFICE,  
*San Francisco, Cal., October 17, 1892.*

Truly forwarded.

As herein given the Columbia River, from the boundary to the Kootenai Rapids, is considered to be worthy of improvement by the Government over two stretches: namely, that extending from the Kootenai Rapids to Little Dalles, a distance of 15 miles; and, secondly, from the Kootenai Rapids to Foster Creek Rapids, a distance of 90 miles.

G. H. MENDELL,  
*Colonel, Corps of Engineers, Division Engineer.*