

# Diversity at the Dam



## The Labor Force

During the 1870s and 1880s (Gilded Age), the United States had experienced brisk economic growth and expansion driven by investment in steel, coal and railroads.

Economic turmoil in the 1890s, notably The Panic of 1893, caused uncertainty and depressions that affected every sector of the economy (silver, wheat and banking).

In Massachusetts, funding for the immense Metropolitan Water Works project (1895), which included the Wachusett Dam and Reservoir, offered nearly ten years of steady employment and good wages well above living costs for those willing to work.

The stability of the project, with its prospects for long term employment, attracted diverse groups of workers from local populations, southern African-Americans and energetic Italian newcomers to work on the great water project.

There were issues with this labor force. Locals tended to be better educated and rose higher in the ranks. Italians had to contend with the language barrier patronage. English-speaking African-Americans, having had by this time established a rising middle class, fared generally better than the Italians, especially in their living conditions.

Ultimately, the things that concerned all workers was the assurance of a wage which would enable them to improve their conditions and to comfortably raise their families.

### The Cost of Living

Many ask how people in that era managed to survive on the meager pay. But prices were also low at time and the main goal of all was to earn more than they spent.

Figures and statistics included at the end of this article indicate that, in comparison to national averages for other occupations, the project offered greater earnings potential, a chance to get ahead while at the same time a safe haven from market turmoil.

These figures in the charts below indicate that wages for skilled tradesmen in construction ranged from \$780 to \$1,200 per year. The wage for unskilled labor was at least comparable to national averages for mechanics of all kinds. The average family earning \$680-880 per year spent over 93% of it on living expenses (\$632 - \$818 per year).

Bear in mind that this entire project occurred in an era predating the Income Tax!

### The Images

The following images have been generously provided by the Massachusetts Water Resources Authority (MWRA) and can be found online at:

Digital Commonwealth Massachusetts Collections Online  
<https://www.digitalcommonwealth.org/collections/commonwealth:g732dh56k>

Arranged in no particular order, they indicate that all worked equally hard, and harmoniously, together. Many more examples, too numerous to include here, lie hidden within the photographs. Keep watch for them as you scan the images.

Wachusett Dam & Reservoir



*A man shows his curiosity for the camera by peering out of the second floor (bedroom) window. The house was located on River Street almost exactly on the centerline of the future dam.*



*Tunnel excavation crew.*

Wachusett Dam & Reservoir



*A carpenter.*

Wachusett Dam & Reservoir



A work gang forming and pouring concrete.

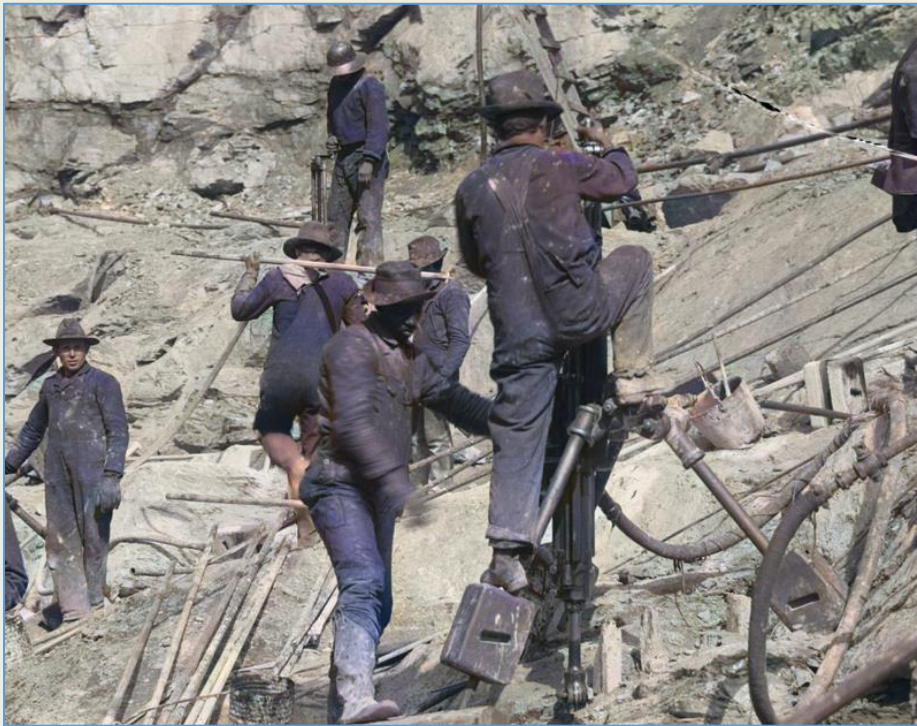


A crew laying brick arches at the Assabet River Bridge.

Wachusett Dam & Reservoir



*A pipe layer on a short break.*



*These men are operating a rock drill in preparation for blasting. Rock removal was found in every aspect of this work.*

## Wachusett Dam & Reservoir

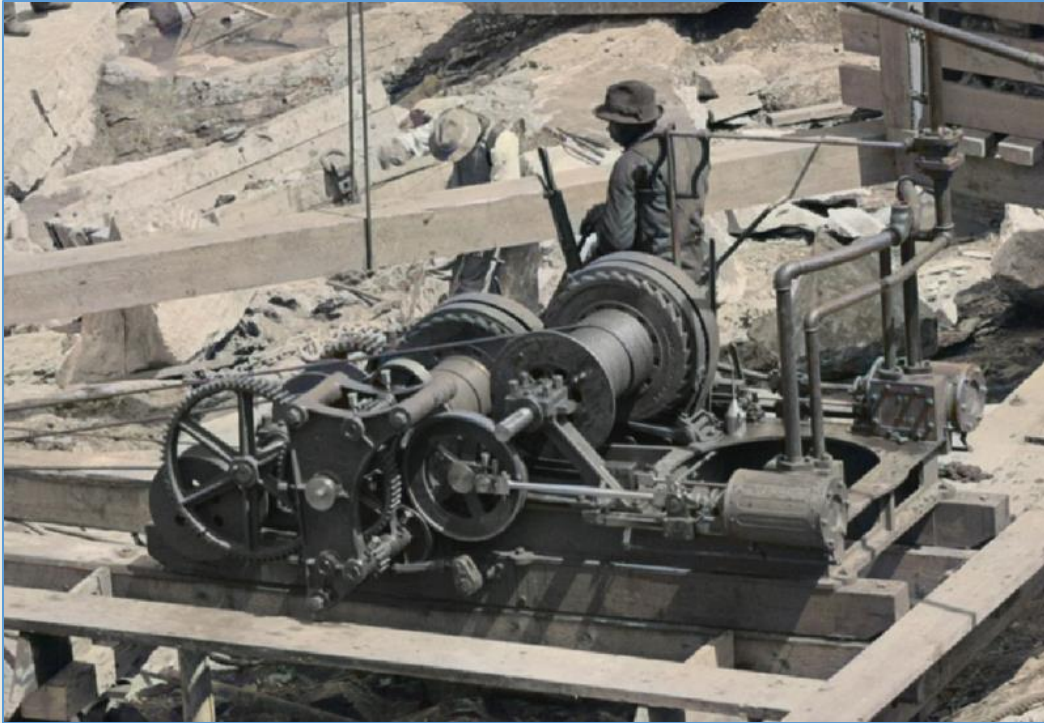


*After a hard workday a man catches some rest, possibly after a well-earned dinner. Too tired to go inside, he sleeps right where he is. Notice the well-kept housing provided by this contractor and the frying pan on the pole for outdoor cooking.. The Italians very often had only mud huts for shelter.*



*Rock drill crews at the quarry in Boylston.*

## Wachusett Dam & Reservoir



*In construction, even to this day, equipment operators generally earn at higher rates of pay for their skill, long training and responsibility for life safety. This winch is paired with a derrick and can lift 6 tons.*



*Men who could handle horses and wagon were called teamsters. That name has remained with those who move freight on wheels.*



Wachusett Dam & Reservoir



*Getting out rock at the Quarry involved the lifting, over the heads of other workers, of heavy loads with a derrick (crane).*



*This man is the operator the derrick, a very important position.*

Wachusett Dam & Reservoir



*After the blast, huge rocks are split by hand into manageable pieces with old fashioned wedges.*



*There was even work for youngsters in the days before labor laws prevented it.*

Wachusett Dam & Reservoir



*Another teamster, this time driving a two-horse dump wagon built by Studebaker, the future auto manufacturer.*



*This crew is preparing seedlings for transplanting in the watershed.*

Wachusett Dam & Reservoir



*Chaining the huge rubble stones on flatcars for delivery by cableway to the work below.*

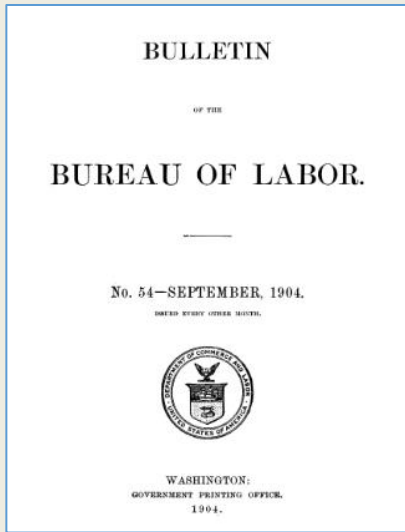


*Cyclists viewing the work.*





Cost of Living



**COST OF LIVING AND RETAIL PRICES IN THE UNITED STATES.**  
 BY G. W. W. HANGER.

While the Bureau of Labor in 1890 and 1891 in its Sixth and Seventh Annual Reports published data in great detail relative to the cost of living of workingmen's families whose heads were engaged in the iron, steel, coal, coke, iron ore, cotton, woolen, and glass industries, the great changes in economic conditions since these reports were issued rendered this material of little value as the basis for an exhibit of the work of the Bureau along these lines. It was peculiarly fortunate, therefore, that the forthcoming Eighteenth Annual Report became available in sufficient time to permit of its use for this purpose. This report, a summary of which has appeared in the Bulletin of the Bureau of Labor for July, 1904 (No. 53), is the annual report for the year 1903, and presents the results of an investigation prosecuted in every section of our country into the cost of living of workingmen's families and the retail prices of the principal staple articles of food consumed by such families. As stated, this investigation covered two subjects, distinct in character, yet closely allied; that into cost of living covered the year 1901, and its object was to determine the cost of housing, fuel, lighting, food, clothing, etc., in the average workingman's family in the United States, while that into retail prices covered the period from 1890 to 1903 and had for its object the collection of data which would show the extent of increase or decrease in the retail prices of the staple articles of food during the period and thus render it possible to determine, approximately at least, the changes in cost of living in the several years covered.

**COST OF LIVING.**

In carrying out the investigation, reports of their actual expenditures for a year were secured from 25,440 families residing in the principal industrial localities in 33 States. Among the occupations represented are mechanics of all kinds, railroad employees, common laborers, clerks earning less than \$1,200 per year, etc.

The reports, which were secured directly from the husband or wife, or both, by the personal visits of agents of the Bureau, show the age and sex of the various members of the family; the amount earned by

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each member; the family income for the year from all sources; the number of weeks worked during the year by the head of the family; the number of rooms occupied; the amount expended for rent, or, if the house was owned by the occupant and encumbered, the amount paid for interest and on principal; the amounts expended for food, clothing, fuel, lighting, and sundries; also the amount of surplus or deficit at the end of the year.

From 2,567 families reports were secured showing in detail the expenditure for each of the principal articles of food and the quantity consumed; the expenditure for clothing for husband, wife, and children; for taxes; insurance; labor organizations, etc.; religious purposes; furniture; books and newspapers; amusements; liquors; tobacco; medical attendance, etc.; also the disposition of the surplus, if any, and the method of meeting the deficit, if expenditures exceeded income.

The charts on exhibit relating to family conditions and cost of living in 25,440 families present in graphic form some of the most interesting facts disclosed by the investigation. In the list of these charts which follows reference is made by number to the tables which furnish the data for each:

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## Wachusett Dam & Reservoir

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### CHARTS RELATING TO 25,440 FAMILIES

| COST OF LIVING AND RETAIL PRICES. <span style="float: right;">1133</span>  |               |               |                          |  |              |             |               |               |                 |                               |                                    |
|--|---------------|---------------|--------------------------|--|--------------|-------------|---------------|---------------|-----------------|-------------------------------|------------------------------------|
| The 25 tables containing the data which form the basis of the 41 charts follow:  |               |               |                          |  |              |             |               |               |                 |                               |                                    |
| TABLE 1.—NUMBER OF FAMILIES, AVERAGE SIZE OF FAMILY, INCOME AND EXPENDITURE PER FAMILY, AND PER CENT OF TOTAL INCOME EXPENDED, BY GEOGRAPHICAL DIVISIONS AND GENERAL NATIVITY OF HEAD OF FAMILY. |               |               |                          |  |              |             |               |               |                 |                               |                                    |
| [The average shown for each item of expenditure relates to those families only that reported expenditures for such items; the total expenditure per family is for all families.]                 |               |               |                          |  |              |             |               |               |                 |                               |                                    |
| Geographical division and general nativity of head of family.  | Families.     |               | Total income per family. | Average expenditure of families having an expenditure for— |              |             |               |               |                 | Total expenditure per family. | Per cent of total income expended. |
|  | Total.        | Average size. |                          | Rent.  | Fuel.        | Lighting.   | Clothing.     | Food.         | Other purposes. |                               |                                    |
| <b>North Atlantic States:</b>  |               |               |                          |  |              |             |               |               |                 |                               |                                    |
| Native.....  | 7,359         | 4.53          | \$748.81                 | \$130.73   | \$30.66      | \$7.79      | \$93.08       | \$306.31      | \$135.47        | \$686.44                      | 93.01                              |
| Foreign.....   | 6,423         | 5.11          | 763.15                   | 123.93   | 30.33        | 8.17        | 94.20         | 327.49        | 136.27          | 713.01                        | 93.43                              |
| <b>Total.....</b>  | <b>13,782</b> | <b>4.80</b>   | <b>755.49</b>            | <b>127.63</b>  | <b>30.51</b> | <b>7.97</b> | <b>93.60</b>  | <b>316.18</b> | <b>135.84</b>   | <b>704.16</b>                 | <b>93.21</b>                       |
| <b>South Atlantic States:</b>  |               |               |                          |  |              |             |               |               |                 |                               |                                    |
| Native.....  | 1,995         | 5.11          | 683.06                   | 97.95  | 30.54        | 6.12        | 86.08         | 289.09        | 142.42          | 641.80                        | 93.96                              |
| Foreign.....   | 198           | 5.68          | 768.75                   | 107.20   | 31.12        | 6.85        | 103.11        | 354.07        | 132.11          | 734.55                        | 95.55                              |
| <b>Total.....</b>  | <b>2,193</b>  | <b>5.16</b>   | <b>690.80</b>            | <b>98.68</b>   | <b>30.60</b> | <b>6.19</b> | <b>87.62</b>  | <b>294.96</b> | <b>143.30</b>   | <b>650.18</b>                 | <b>94.12</b>                       |
| <b>North Central States:</b>   |               |               |                          |  |              |             |               |               |                 |                               |                                    |
| Native.....  | 4,227         | 4.68          | 756.82                   | 107.62   | 30.48        | 7.50        | 96.81         | 308.09        | 171.28          | 713.63                        | 94.29                              |
| Foreign.....   | 3,113         | 5.39          | 744.05                   | 100.23   | 36.30        | 7.45        | 99.36         | 328.90        | 149.28          | 702.42                        | 94.34                              |
| <b>Total.....</b>  | <b>7,340</b>  | <b>4.98</b>   | <b>751.62</b>            | <b>105.02</b>  | <b>32.95</b> | <b>7.48</b> | <b>97.89</b>  | <b>316.92</b> | <b>161.95</b>   | <b>708.88</b>                 | <b>94.31</b>                       |
| <b>South Central States:</b>   |               |               |                          |  |              |             |               |               |                 |                               |                                    |
| Native.....  | 1,027         | 5.21          | 670.64                   | 94.21  | 23.86        | 4.96        | 87.11         | 278.33        | 153.45          | 635.74                        | 94.80                              |
| Foreign.....   | 194           | 5.26          | 700.73                   | 103.19   | 24.95        | 5.05        | 93.98         | 294.76        | 172.19          | 665.33                        | 94.95                              |
| <b>Total.....</b>  | <b>1,221</b>  | <b>5.22</b>   | <b>675.42</b>            | <b>95.38</b>   | <b>24.04</b> | <b>4.97</b> | <b>88.20</b>  | <b>280.94</b> | <b>156.43</b>   | <b>640.44</b>                 | <b>94.82</b>                       |
| <b>Western States:</b>   |               |               |                          |  |              |             |               |               |                 |                               |                                    |
| Native.....  | 553           | 3.96          | 883.14                   | 148.86   | 34.69        | 8.07        | 118.21        | 311.18        | 142.30          | 741.75                        | 83.99                              |
| Foreign.....   | 351           | 4.42          | 883.78                   | 144.78   | 35.09        | 8.25        | 121.95        | 327.77        | 152.20          | 745.59                        | 84.70                              |
| <b>Total.....</b>  | <b>904</b>    | <b>4.14</b>   | <b>883.39</b>            | <b>147.48</b>  | <b>34.84</b> | <b>8.14</b> | <b>119.66</b> | <b>317.62</b> | <b>146.14</b>   | <b>744.41</b>                 | <b>84.27</b>                       |

Table 1 - The average family earning \$680-880 per year spent over 93% of it on living expenses(\$632 - \$818 per year).



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TABLE 11.—PER CENT OF TOTAL INCOME FROM HUSBANDS, WIVES, CHILDREN, BOARDERS AND LODGERS, AND OTHER SOURCES, BY GEOGRAPHICAL DIVISIONS AND GENERAL NATIVITY OF HEAD OF FAMILY.

| Geographical division and general nativity of head of family. | Per cent of total income from— |        |           |                       |                | Total. |
|---|--------------------------------|--------|-----------|-----------------------|----------------|--------|
|   | Husbands.                      | Wives. | Children. | Boarders and lodgers. | Other sources. |        |
| North Atlantic States:  |                                |        |           |                       |                |        |
| Native .....  | 82.31                          | 1.73   | 7.03      | 7.06                  | 1.87           | 100.0  |
| Foreign .....   | 74.11                          | 1.77   | 12.39     | 10.01                 | 1.72           | 100.0  |
| Total .....   | 78.45                          | 1.75   | 9.55      | 8.45                  | 1.80           | 100.0  |
| South Atlantic States:  |                                |        |           |                       |                |        |
| Native .....  | 76.30                          | 1.94   | 11.00     | 9.08                  | 1.68           | 100.0  |
| Foreign .....   | 68.14                          | 1.65   | 16.60     | 11.98                 | 1.63           | 100.0  |
| Total .....   | 75.48                          | 1.91   | 11.56     | 9.37                  | 1.68           | 100.0  |
| North Central States:   |                                |        |           |                       |                |        |
| Native .....  | 85.93                          | .80    | 6.27      | 5.63                  | 1.37           | 100.0  |
| Foreign .....   | 76.74                          | .96    | 12.22     | 7.80                  | 2.28           | 100.0  |
| Total .....   | 82.07                          | .87    | 8.77      | 6.54                  | 1.75           | 100.0  |
| South Central States:   |                                |        |           |                       |                |        |
| Native .....  | 80.32                          | 1.67   | 9.37      | 6.61                  | 2.03           | 100.0  |
| Foreign .....   | 70.65                          | 1.27   | 17.27     | 7.86                  | 2.95           | 100.0  |
| Total .....   | 78.73                          | 1.60   | 10.67     | 6.82                  | 2.18           | 100.0  |
| Western States:   |                                |        |           |                       |                |        |
| Native .....  | 85.80                          | 1.02   | 7.26      | 4.71                  | 1.21           | 100.0  |
| Foreign .....   | 80.08                          | .61    | 10.62     | 7.15                  | 1.54           | 100.0  |
| Total .....   | 83.58                          | .86    | 8.57      | 5.65                  | 1.34           | 100.0  |

Table 2 – In the average family the husband earned 75-85% of total income.

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| Total .....   | 82.07                          | .87    | 8.77      | 6.54                  | 1.75           | 100.0  |
| South Central States:   |                                |        |           |                       |                |        |
| Native .....  | 80.32                          | 1.67   | 9.37      | 6.61                  | 2.03           | 100.0  |
| Foreign .....   | 70.65                          | 1.27   | 17.27     | 7.86                  | 2.95           | 100.0  |
| Total .....   | 78.73                          | 1.60   | 10.67     | 6.82                  | 2.18           | 100.0  |
| Western States:   |                                |        |           |                       |                |        |
| Native .....  | 85.80                          | 1.02   | 7.26      | 4.71                  | 1.21           | 100.0  |
| Foreign .....   | 80.08                          | .61    | 10.62     | 7.15                  | 1.54           | 100.0  |
| Total .....   | 83.58                          | .86    | 8.57      | 5.65                  | 1.34           | 100.0  |

Table 11 – Many families had more than one source of revenue. On average, the husband's earnings made up about 80% of all income.

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**TABLE 13.—PER CENT OF FAMILIES REPORTING A SURPLUS, A DEFICIT, OR NEITHER A SURPLUS NOR A DEFICIT, BY GEOGRAPHICAL DIVISIONS AND GENERAL NATIVITY OF HEAD OF FAMILY.**

| Geographical division and general nativity of head of family. | Per cent of families reporting— |          |                              |
|---|---------------------------------|----------|------------------------------|
|   | Surplus.                        | Deficit. | Neither surplus nor deficit. |
| <b>North Atlantic States:</b>                                 |                                 |          |                              |
| Native .....  | 55.38                           | 16.18    | 28.44                        |
| Foreign .....   | 51.44                           | 17.28    | 31.28                        |
| Total .....   | 53.54                           | 16.70    | 29.76                        |
| <b>South Atlantic States:</b>                                 |                                 |          |                              |
| Native .....  | 41.25                           | 19.60    | 39.15                        |
| Foreign .....   | 30.30                           | 23.23    | 46.47                        |
| Total .....   | 40.26                           | 19.93    | 39.81                        |
| <b>North Central States:</b>                                  |                                 |          |                              |
| Native .....  | 45.90                           | 12.51    | 41.59                        |
| Foreign .....   | 42.95                           | 17.83    | 39.22                        |
| Total .....   | 44.64                           | 14.77    | 40.59                        |
| <b>South Central States:</b>                                  |                                 |          |                              |
| Native .....  | 45.67                           | 22.10    | 32.23                        |
| Foreign .....   | 33.51                           | 17.01    | 49.48                        |
| Total .....   | 43.74                           | 21.29    | 34.97                        |
| <b>Western States:</b>  |                                 |          |                              |
| Native .....  | 83.72                           | 3.44     | 12.84                        |
| Foreign .....   | 79.77                           | 4.56     | 15.67                        |
| Total .....   | 82.19                           | 3.87     | 13.94                        |

Table 13 – Fewer than 20% of all families reported reported a deficit in earnings compared to costs.

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**TABLE 15.—AVERAGE INCOME OF HUSBANDS AT WORK, BY GEOGRAPHICAL DIVISIONS AND GENERAL NATIVITY.**

| Geographical division and general nativity. | Average income of husbands. |
|---|-----------------------------|
| <b>North Atlantic States:</b>               |                             |
| Native .....                                | \$638.14                    |
| Foreign .....                               | 594.56                      |
| Total .....                                 | 618.00                      |
| <b>South Atlantic States:</b>               |                             |
| Native .....                                | 557.21                      |
| Foreign .....                               | 563.71                      |
| Total .....                                 | 557.79                      |
| <b>North Central States:</b>                |                             |
| Native .....                                | 663.38                      |
| Foreign .....                               | 588.58                      |
| Total .....                                 | 631.84                      |
| <b>South Central States:</b>                |                             |
| Native .....                                | 572.68                      |
| Foreign .....                               | 568.31                      |
| Total .....                                 | 572.03                      |
| <b>Western States:</b>                      |                             |
| Native .....                                | 823.13                      |
| Foreign .....                               | 759.65                      |
| Total .....                                 | 801.24                      |

Table 15 – Average income of husbands was \$550-650 per year.