

APPENDIX—IRRIGATION SCHEDULES

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CONFIDENTIAL.—The information given in this report is *strictly confidential* and will not be used as a basis of taxation nor communicated to any tax official

Form 15-230
DEPARTMENT OF COMMERCE—BUREAU OF THE CENSUS
WASHINGTON

FIFTEENTH CENSUS OF THE UNITED STATES: 1930

IRRIGATION-1

ENUMERATOR'S RECORD

State..... County.....
Supervisor's District No. Enumeration District No.
Enumerated by me on....., 1930.
....., Enumerator.

This schedule is to be used **ONLY** for irrigation enterprises serving **LESS than FIVE** farms, in the following States:

Arizona	Kansas	New Mexico	Texas
Arkansas	Louisiana	North Dakota	Utah
California	Montana	Oklahoma	Washington
Colorado	Nebraska	Oregon	Wyoming
Idaho	Nevada	South Dakota	

EXPLANATIONS AND INSTRUCTIONS

Legal requirement.—A report of every irrigation enterprise in the United States is required by the Decennial Census Act of the Congress, approved June 18, 1929.

Definition of an irrigation enterprise.—An irrigation enterprise, for the purpose of the census, is a canal or a canal system, pumping plant, or reservoir supplying water for irrigation, or any combination of these operated under a single management by either an individual, a partnership, a company, or other organization.

Land should be classed as irrigated which has water supplied to it for agricultural purposes by artificial means or by seepage from canals, reservoirs, or irrigated lands, but land which has natural ground-water sufficiently near the surface to support plant life should not be classed as irrigated. Land which is flooded during high-water periods should be classed as irrigated if water is caused to flow over it by dams, canals, or otherwise, but should not be classed as irrigated if the overflow is due to natural causes alone.

This schedule is to be used by enumerators to report irrigation enterprises serving less than five farms.—Reports for larger enterprises will be secured by enumerators only when they are specifically instructed by their supervisors to do so, and enumerators will then use schedule Irrigation-2. However, enumerators are cautioned to return reports for all pumping plants, wells, canals, or reservoirs operated by individuals or small groups of farmers who also obtain water from enterprises serving more than four farms.

If the General Farm Schedule (Questions 122 to 125) shows that the farm was irrigated, the enumerator should ask whether the irrigation enterprise reported under Question 125 serves less than five farms in all; if the answer is "Yes" he should obtain the names of all the farmers involved, and from one of them (or other reliable source), obtain the information needed to fill out this Irrigation Schedule, unless, upon further inquiry, he is told that an Irrigation Schedule has already been received from the Census Bureau. If such a schedule has been received, he should ask whether it has been filled out and returned. If the answer to this question is "Yes," the enumerator should make an entry to that effect on his daily report. The enumerator should satisfy himself, however, that it was actually a United States Census Irrigation Schedule, and not some other form of schedule, which was received and filled out, and that the irrigation enterprise it described was none other than the one about which he is inquiring.

If the enterprise has received an Irrigation Schedule by mail and has not filled it out, or has filled it out but has not returned it, the enumerator should obtain it. *Only a few schedules will have been received by mail by enterprises serving less than five farms, these being individuals or partnerships in isolated sections, or enterprises whose size was not definitely known by the Bureau of the Census.*

All questions are to be answered.—If exact information is not available, get the best estimate possible and write "Est." beside the answer. Use the margin of the schedule or a separate sheet when additional space is necessary to make the answers clear, definite, and complete.

Section I.—If a farm is supplied with water by more than one canal, and these canals supply water to *not more than three* other farms, a schedule should be made out for each canal; but if a farm is supplied with water by more than one canal and these canals supply no other farm or farms, all such canals should be included on a single schedule, the names, if the canals are named, being written on the blank lines under Question 2.

Section II.—If water is secured from more than one source, each should be marked and the principal source indicated by underscoring. If water is secured from two or more streams or other sources, the names of each should be given.

"Stored storm water" refers to reservoirs filled by storing storm water from channels that carry water only during storms and are not classed as streams. When water is obtained from a reservoir filled from a stream, the stream should be given as the source.

Under "Drainage basin" the name of the smallest stream that is well known and which is shown on ordinary maps should be given. This inquiry should be answered, even if water is not obtained from a stream.

Section III.—These questions relate to the rights of the enterprise to take water from the stream or other source from which it is obtained. Some enterprises have several rights, each of which should be shown; and many rights will fall in more than one of the classes named. In each instance the right should be reported in the class in which it stands at the time of the enumeration.

Section IV.—"Individual or partnership" enterprises are those belonging to individual farmers or groups of farmers associated without formal organization. "Cooperative" enterprises are controlled by the water users combined in some organized form of cooperation under State laws, the most common form being the stock company, the stock of which is owned by the water users.

(OVER)

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I.—MANAGEMENT AND LOCATION OF ENTERPRISE

- Name of canal or enterprise.....
- Individual, partnership, or company controlling enterprise:
(If supplying more than one farm, give name of each farmer. If two or more ditches are used for a single farm, state that fact and give names of ditches.)
Name (or names).....
.....
.....
Post-office address:.....
- Location of enterprise: { State.....
County.....
- Location of head of canal, well, spring, or reservoir:
Section..... Township..... Range.....
(If located on unsurveyed land, describe by direction and distance from some near-by town or place).....
- Person furnishing information:
Name.....
Title.....
Address.....

II.—SOURCE OF WATER SUPPLY

- Indicate class by X: (If more than one class, mark each)
Stream..... Spring.....
Pumped well..... Stored storm water.....
Flowing well..... City water.....
Lake..... Sewage.....
- Name of stream or other source.....
- Drainage basin.....
(Give name of river system which drains the region where enterprise is located)

III.—WATER RIGHTS

- Indicate class by X: (If more than one class, mark each)
Notice filed and posted..... Riparian right.....
Right adjudicated by court..... Certificate or license from State.....
Permit from State..... Appropriation and use.....
- Dates and amounts of rights.....

IV.—CLASS OF ENTERPRISE

- Indicate class of enterprise at the present time by X:
Individual or partnership..... Cooperative.....

THIS SPACE FOR OFFICE USE ONLY	SCHEDULE NO.	SOURCE OF SUPPLY CODE	DRAINAGE BASIN CODE	CLASS CODE	DATE BEGUN CODE	WATER RIGHTS CODE
V.—DESCRIPTION OF WORKS						
<p>12. General description of system:</p> <p>.....</p> <p>.....</p> <p>.....</p>						
<p>13. Date of construction: (a) Begun..... (b) Finished.....</p> <p style="text-align:center;">(Year) (Year)</p>						
<p>14. Diversion dams: (a) Number..... (b) Material.....</p>						
<p>15. Storage dams: (a) Number..... (b) Material.....</p>						
<p>16. Main canals: (a) Capacity (cubic feet per second).....</p> <p>(b) Number..... (c) Length (miles).....</p>						
<p>17. Lateral canals (omit farm laterals): (a) Number.....</p> <p>(b) Length (miles).....</p>						
<p>18. Pipe lines: (a) Size (inches)..... (b) Length (miles).....</p> <p>(c) Material.....</p> <p style="text-align:center;">(Wood-stave, concrete, metal, etc.)</p>						
<p>19. Reservoirs: (a) Number..... (b) Capacity.....</p> <p style="text-align:center;">(Acre-feet)</p>						
<p>20. Flowing wells: (a) Number..... (b) Capacity.....</p> <p style="text-align:center;">(Gallons per minute)</p>						
<p>21. Pumped wells: (a) Number..... (b) Capacity.....</p> <p style="text-align:center;">(Gallons per minute)</p>						
<p>22. Pumping plants:</p> <p>(a) Number.....</p> <p>(b) Kind of power.....</p> <p style="text-align:center;">(Wind, water, steam, electric, etc.)</p> <p>(c) Capacity (horsepower).....</p> <p>(d) Kind of pumps.....</p> <p style="text-align:center;">(Centrifugal, rotary, reciprocating, etc.)</p> <p>(e) Number of pumps.....</p> <p>(f) Capacity of pumps (gallons per minute).....</p> <p>(g) Average lift (feet).....</p>						
VI.—LANDS						
<p>23. Number of farms supplied with water by this enterprise in 1929.....</p> <p style="text-align:right;">Number.....</p>						
<p>24. Total irrigable acreage the project will cover when completed.....</p> <p style="text-align:right;">Acres.....</p>						
<p>25. Area to which existing canals are capable of supplying water in 1930.....</p> <p style="text-align:right;">Acres.....</p>						
<p>26. Area actually irrigated in 1929.....</p> <p style="text-align:right;">Acres.....</p> <p style="font-size:small;">(Actual area irrigated, not area for which water was available nor total holdings of persons entitled to water)</p>						
<p>27. Lands available for settlement covered or to be covered by this enterprise.....</p> <p style="text-align:right;">Acres.....</p>						
<p>28. Average cost of preparing land for irrigation (per acre).....</p> <p style="text-align:right;">\$.....</p> <p style="font-size:small;">(Include clearing and grading land and building farm laterals and farm irrigation structures)</p> <p style="text-align:right;">(Omit cents)</p>						
VII.—CAPITAL INVESTED IN ENTERPRISE						
<p>29. Irrigation works and equipment..... \$.....</p> <p style="text-align:right;">(Omit cents)</p>						
<p>30. If works are not completed, estimate additional investment required for completion..... \$.....</p> <p style="text-align:right;">(Omit cents)</p>						
<p>31. Water rights..... \$.....</p> <p style="text-align:right;">(Omit cents)</p>						
VIII.—MAINTENANCE AND OPERATION						
<p>32. Cost of maintenance and operation in 1929 (if work was done by owner or operator, estimate cost of labor and material)..... \$.....</p> <p style="text-align:right;">(Omit cents)</p>						
IX.—DRAINAGE OF IRRIGATED LANDS						
<p>33. Area for which drains have been installed.....</p> <p style="text-align:right;">Acres.....</p>						
<p>34. Additional area in need of drainage:</p> <p>(a) Total.....</p> <p style="text-align:right;">Acres.....</p> <p>(b) Wholly unproductive.....</p> <p style="text-align:right;">Acres.....</p> <p>(c) Available for pasture only.....</p> <p style="text-align:right;">Acres.....</p> <p>(d) Producing partial crop.....</p> <p style="text-align:right;">Acres.....</p>						
EXPLANATIONS AND INSTRUCTIONS—Continued						
<p>Section V.—Under "General description" give the character of the water supply; the type of diverting, conveying, storing, or water-lifting works, and their relation to each other. Report also any important items of equipment not called for specifically in the list.</p> <p>A main canal is any irrigating channel conveying water from the source of supply to the tract of land to be irrigated. A lateral canal is a branch of a main canal conveying water from a main canal to one or more farms. Farm laterals, which distribute the water within the boundaries of the individual farm, should not be reported.</p> <p>If pipe lines of more than one size are used, the length of pipe of each size should be given, by writing between the lines on the schedule, or on an extra sheet.</p> <p>If the capacity of a reservoir is not known, it should be estimated by multiplying the area of the water surface when reservoir is full, expressed in acres, by the average depth above the level of the bottom of the outlet, expressed in feet.</p> <p>If capacities of either flowing or pumped wells are not known, get the best estimates possible. In the case of pumped wells, where capacities are not known and have not been determined beyond the capacities of the pumps used, the capacities of the pumps should be given as the capacities of the wells.</p> <p>Under "Kind of power" state whether pumps are run by wind, water, steam, electricity, or internal-combustion engines. If electric power is obtained from a power company, report electricity, regardless of how the power is developed. If windmills are used, under "Capacity" give diameters of wheels rather than horsepower.</p> <p>Under "Kind of pumps" state whether pumps are centrifugal, rotary, plunger, or other kind. If some unusual type of pump or other water-lifting device is used, describe it briefly under "Description of works," or on a separate sheet to be attached to the schedule.</p> <p>Under "Average lift" give the average vertical distance between the level of the water in the source of supply when the pumps are running and the point to which the water is lifted. Do not consider friction and velocity heads or horizontal distances.</p> <p>Section VI.—Under "Total irrigable acreage the project will cover when completed," only the acreage to which it is definitely planned to supply water should be reported. Possible extensions not yet definitely planned should not be included.</p> <p>The answer to Question 25 should include all land to which the enterprise is ready and able to supply water, whether land is farmed or not.</p> <p>The "Area actually irrigated in 1929" should be limited to land to which water was actually applied during that season. It should not include land which is under canals and sometimes irrigated, but which was not watered in 1929, nor land not yet irrigated on farms that are in process of reclamation.</p> <p>If the same land received water from more than one enterprise (as in the case of a pumping plant serving land also served by the canals of an irrigation district or other large-scale enterprise), show the total acreage served by the enterprise to which the remainder of this report applies, but show the extent of the duplication on the blank lines following Question 28 and give the name of the larger enterprise. If the enterprise supplied water to other enterprises, and not directly to land, so that reporting the acreage here would cause duplication, state the facts on the blank lines, give the names of the enterprises supplied, but do not report the acreage here.</p> <p>The answer to Question 27 should be limited to land for which water is available or is to be made available, and which is not yet settled. Land already settled should not be included even if it is for sale, unless the holdings are to be subdivided, when only the parts of such holdings that are to be sold for new farms should be reported as available for settlement. If the management of an enterprise is itself farming land pending its settlement, the land should be reported as available for settlement.</p> <p>The answer to Question 28 should be the best estimate obtainable from the officials of the enterprise being reported or from farmers operating under the enterprise.</p> <p>Section VII.—In answering Question 29, include the original cost of the irrigation works plus the cost of extensions and improvements; also the cost of equipment, buildings, and land used for maintenance and operation, but not water rights. If works are not completed, give investment to December 31, 1929. If there are no records of cost, or if the owners have done all or part of the construction, the best estimate of cost obtainable should be reported, including the estimated value of the work done by the owners. If drainage works have been built, do not include their cost in the answer to Question 28.</p> <p>Under "Water rights" include filing and legal fees paid by the enterprise in acquiring them; and if they were purchased by the enterprise give the purchase price.</p> <p>Section VIII.—In answering Question 32, report only the cost of maintenance, operation, and ordinary cleaning and repairs.</p> <p>Section IX.—This section relates only to lands which have been irrigated or are to be irrigated by this enterprise. The "Additional area in need of drainage" and the distribution of this area under the subordinate inquiries will necessarily be estimated. Enumerators should make the best estimates possible, based on information furnished by the officials of the enterprise and by others in the community, and on their own observations, but they should not attempt to make extended observations.</p> <p>The sum of the answers to Questions 34(b) to 34(d) must be the answer to Question 34(a).</p>						

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Form 15-147
DEPARTMENT OF COMMERCE—BUREAU OF THE CENSUS
WASHINGTON

FIFTEENTH CENSUS OF THE UNITED STATES: 1930

IRRIGATION-2

This schedule is to be used only in the following States:

Arizona	Kansas	New Mexico	Texas
Arkansas	Louisiana	North Dakota	Utah
California	Montana	Oklahoma	Washington
Colorado	Nebraska	Oregon	Wyoming
Idaho	Nevada	South Dakota	

EXPLANATIONS AND INSTRUCTIONS

Legal requirement.—A report of every irrigation enterprise in the United States is required by the Decennial Census Act of the Congress, approved June 18, 1929.

Enterprises which mail their reports to the Bureau of the Census will not be visited by field representatives unless the reports are incomplete or have been delayed.

Definition of an irrigation enterprise.—An irrigation enterprise, for the purpose of the census, is a canal or a canal system, pumping plant, or reservoir supplying water for irrigation, or any combination of these operated under a single management by either an individual, a partnership, a company, or other organization. For classification of enterprises see note under Section IV.

Land should be classed as irrigated which has water supplied to it for agricultural purposes by artificial means or by seepage from canals, reservoirs, or irrigated lands, but land which has natural ground-water sufficiently near the surface to support plant life should not be classed as irrigated. Land which is flooded during high-water periods should be classed as irrigated if water is caused to flow over the land by dams, canals, or otherwise, but should not be classed as irrigated if the overflow is due to natural causes alone.

All questions are to be answered.—If exact information is not available, give the best estimate possible and write "Est." beside the answer. Use the margin of the schedule or a separate sheet when additional space is necessary to make the answers clear, definite, and complete.

I.—MANAGEMENT AND LOCATION OF ENTERPRISE

- Name of canal or enterprise.....
- Individual or company controlling enterprise:
.....
.....
.....
- Post-office address: { Main office.....
Local office.....
- Location of enterprise: { State.....
County.....
- Location of head of canal, well, spring, or reservoir:
Section..... Township..... Range.....
(If located on unsurveyed land, describe by direction and distance from some near-by town or place)
- Person furnishing information:
Name and Title.....
Address.....
Date.....
Signature.....

II.—SOURCE OF WATER SUPPLY

- Indicate class by X: (If more than one class, mark each)
Stream..... Spring.....
Pumped well..... Stored storm water.....
Flowing well..... City water.....
Lake..... Sewage.....
- Name of stream or other source.....
- Drainage basin.....
(Give name of river system which drains the region where enterprise is located)

III.—WATER RIGHTS

- Indicate class by X:
NOTE.—Some enterprises have several rights, each of which should be shown; and many rights will fall in more than one of the classes named. For instance: A right may have been acquired originally by appropriation and use; later the owner may have filed and posted a notice of his claim; still later the right may have been adjudicated by a court or board; and, finally, a certificate may have been issued by the State. Or a right may have been initiated on a permit from the State and the owner may have received later a certificate from the State. In each instance the right should be reported in the class in which it stands at the time of the enumeration.
Notice filed and posted..... Riparian right.....
Right adjudicated by court..... Certificate or license from State.....
Permit from State..... Appropriation and use.....
- Dates and amounts of rights.....

IV.—CLASS OF ENTERPRISE

NOTE.—The types of enterprises recognized by the Census are as follows:

Individual or partnership enterprises, which belong to individual farmers or to groups of farmers associated without formal organization. It is not always possible to distinguish between partnership and cooperative enterprises, but as the difference is slight this is unimportant.

Cooperative or mutual enterprises, which are controlled by the water users combined in some organized form of cooperation under State laws. The most common form of organization is the stock company, the stock of which is owned by the water users. In New Mexico many of the cooperative enterprises are operated under laws regulating "community" ditches.

Irrigation districts, which are public corporations established under State laws and empowered to issue bonds to obtain funds for the purchase or construction of irrigation works, and to levy and collect taxes for the payment of bonds and interest thereon and for the payment of the cost of operation and maintenance. In some States these are called water improvement districts, water conservation districts, water storage districts, etc.

Carey Act enterprises, established under the Federal law of August 18, 1894, granting each of the States in the arid region 1,000,000 acres of land on condition that the State provide for its irrigation, and under amendments to that law granting additional areas to Idaho and Wyoming.

Commercial enterprises, incorporated or otherwise, and including public utilities regulated by State commissions, which supply water for compensation to farmers who own no interest in the works. Irrigators obtaining water from such enterprises are required to pay annual charges based in some instances on the acreage irrigated and in others on the quantity of water received, and sometimes must pay in addition for the initial right to receive water.

United States Indian Service enterprises, established under various acts of the Congress providing for the construction by that service of works for the irrigation of land in Indian reservations.

United States Bureau of Reclamation enterprises, established under the Federal law of June 17, 1902, providing for the construction of irrigation works with the receipts from the sale of public lands.

State enterprises.—In a few instances the States themselves have carried out irrigation enterprises under special legislation.

City water or sewage disposal enterprises.—This class is self-explanatory.

11. Indicate class of enterprise at the present time by X:

Individual or partnership.....	U. S. Indian Service.....
Cooperative.....	U. S. Bureau of Reclamation.....
Irrigation district.....	State.....
Carey Act.....	City.....
Commercial.....	

Many enterprises were organized under one form and later changed to another form. In such cases, state the facts on the blank lines below:

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