

# **Illinois Water Inventory Program**

## **Agricultural Irrigation Reporting Handbook**

**Illinois State Water Survey**

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## **About This Document**

This handbook was developed to provide guidance to those agricultural irrigators in the State Of Illinois that are required to report their water use annually to the Illinois State Water Survey (ISWS), as specified in the Illinois Water Use Act. The ISWS is not a regulatory agency, but was mentioned specifically in the Water Use Act to gather water withdrawal data because of their existing Illinois Water Inventory Program (IWIP) and their history of serving the needs of the citizens of Illinois related to water quantity and quality issues. The ISWS is a research and public service arm of the state and university, one of the Scientific Surveys that provide scientific expertise and advice to stakeholders in Illinois based on sound science and reliable data. Located at the University of Illinois, within the Prairie Research Institute, the ISWS uses water withdrawal data to evaluate water resources and draw sound scientific conclusions to water issues that may arise, as well as evaluate future water needs in the state.

At the end of this document is contact information for the staff at the ISWS responsible for collecting water use data. ISWS staff are helpful and want to make reporting a simple process. You are encouraged to contact them, they can answer your questions and help you better understand how the information you are providing will be used. This is considered a living document, quantifying agricultural irrigation is new to the ISWS as well, and there will likely be changes and additions as the program develops, grows, and begins collecting information from irrigators.

## **The Illinois Water Inventory Program**

Since 1978, the ISWS has collected water use data from over 2000 high capacity water users in the state under a voluntary program, the Illinois Water Inventory Program (IWIP). A survey has been sent out annually to every public water supply and self-supplied industry in the state asking them to provide total gallons of water pumped from each groundwater well and surface water intake capable of pumping more than 100,000 gallons a day (70 gallons per minute). Irrigation water use has been estimated in the past using rainfall deficit methods (the *checkbook method*), assuming 1.5 inches of rain needed a week during the growing season. A few irrigators have participated in the IWIP program, but fewer than 5-10 percent.

## **The Illinois Water Use Act**

In 2010, the Illinois Water Use Act was amended to make reporting for all high capacity wells or intakes mandatory in Illinois, including agricultural irrigation. Agricultural irrigation was given five years to comply, which means that starting with 2015, irrigators are required to report their water use from both wells and surface water intakes to the ISWS. The complete text of the Illinois Water Use Act is provided in Appendix A, with the relevant sections for water use reporting underlined. The Act does not define agricultural irrigation, but for the purposes of reporting to the ISWS-IWIP program, agricultural irrigation refers to field crops, typically sold wholesale, and grown for large scale production. Nurseries, golf courses, and other types of irrigation for commercial purposes are considered commercial systems and should already be reporting to the program.

## **Irrigation Reporting Information**

A high capacity well/intake is defined as a single point of withdrawal or a series of points that together pump more than 70 gallons a minute (gpm). The Illinois Water Use Act states that irrigators can provide an actual number of gallons pumped, if using a flow meter, or estimate their water withdrawals using a method approved by the ISWS. The ISWS has identified two estimation methods that are simple and straightforward to use.

- The *acre-inches method* – Number of inches applied x acres x 27150 gallons per acre-inch
- The *hours-flowrate method* – Number of hours ran x rated gallons per minute of system x 60min/hr

A website has been set up for agricultural irrigation reporting under the IWIP program page on the ISWS website, and we encourage irrigators to report their water use electronically. This handbook as well as additional help information is available there. The URL is:

<http://www.sws.uiuc.edu/gws/iwip/irrigation/>

### **What Is Required**

The IWIP program catalogs water use data by source and location, meaning total water pumped from each well and/or intake. Locations of each withdrawal point are a critical part of the data being collected. Irrigators are asked to provide an accurate location of each well and intake pumped during the year. A short tutorial is available on the website above that will demonstrate an easy method to determine the location of each well and intake using Google Maps or Bing. You can also contact the ISWS for assistance in determining the locations.

The location and total annual gallons pumped from each well and intake are the minimum data required for reporting, along with contact information for the participant in the program. The forms available online and in this handbook can be used to report online once the irrigation season is complete, or submitted via mail to the ISWS. The forms are available as PDF's and, for some forms, as Excel files in addition to the PDF's. Tutorials will be available on the website as short videos demonstrating how to use each form, and how to determine the location of a well. The ISWS encourages irrigators to submit copies of all of the data forms, it will save you from additional contact with the ISWS to clarify information on the reporting form should questions arise, but submission of the registration form and the reporting form are all that are required.

### **Timeline For Reporting**

2015 is the first year that agricultural irrigation water use is required to be submitted, so total gallons pumped will not be reportable until the end of the 2015 growing season. It is never too soon to register your wells and intakes in the program. The registration form can be completed and sent in beginning March 1, 2015. When you submit a registration form, the ISWS will create a facility ID and send you a facility ID number. When it comes time to report water use, you can log in with your facility ID and the online system will populate the reporting form with your information, you will only have to fill in the blanks. For those that register and submit water use information at the same time, you will be sent a facility ID to use in the online system in 2016. Please remember that this is new to the ISWS as well, and during the first year or two of implementation, the program will likely be modified based on user feedback and comments. Registering will be a one-time thing, and once the ISWS has created a facility ID for a participant which includes their wells and intakes, future reporting will only require submittal of annual water use, except for adding any wells or intakes that have been installed during that year.

### **Confidentiality Information**

Confidentiality issues have been raised, and in response, the ISWS has developed a statement that will be included on the reporting form that an irrigator can sign that says they consider reported data to be confidential, proprietary, and privileged commercial information. Signing this statement, or acknowledging this statement in the online system, gives the ISWS leverage to protect individual information from outside data requests. The ISWS

typically generates an annual summary of water use that reports withdrawal and use of water at either the county or township scale. The annual report is usually available about 18 months after the end of the reporting year. The ISWS will not disclose individual data or report at a county or township scale if doing so clearly provides individual information. The confidentiality clause can be seen on the reporting form in Appendix B. Here is what you need to know regarding the confidentiality of your information:

**Agricultural Irrigation information is kept confidential to the extent permitted by law:** While the amount of water withdrawn by public wells and intakes is public information, the amount of water used for agricultural irrigation is not routinely disclosed by the ISWS. Agricultural irrigation data is ordinarily published only in aggregate form, in combination with township or regional totals. If the ISWS receives a request for disclosure of specific information under the Illinois Freedom of Information Act (FOIA) it may be legally required to release such information. However, agricultural irrigation data submitted to the ISWS under a claim that it is a trade secret, commercial or financial information that it is proprietary, privileged, or confidential may be able to be excluded from production in response to a FOIA request, but such data must be clearly labeled as such at the time it is submitted to the ISWS. Additionally, the ISWS will not disclose personal information submitted in conjunction with agricultural irrigation data.

A signature line has been included on the IWIP Irrigation Reporting form to allow irrigators to indicate that their reported data is a trade secret, commercial or financial information that it is proprietary, privileged, or confidential.

### **Aggregate Reporting**

The Illinois Water Use Act states, "A person or land occupier that is responsible for a point of withdrawal that is classified as a high-capacity well or a high-capacity intake used for irrigation that lies within the boundaries of a water authority or other local government entity that estimates irrigation withdrawals through a method deemed acceptable by the Illinois State Water Survey is exempt from participating as an individual in the Illinois Water Inventory Program." For any local government entity wishing to explore aggregated reporting, the ISWS will work with any local government entity on a case-by-case basis to develop a reporting procedure that meets the goals of the Water Use Act and the needs of the Illinois Water Inventory Program.

### **Examples of Estimating Pumpage**

In the following sections, we provide examples of how to report pumpage using a flowmeter and the two estimation methods to calculate total pumpage. Appendix C contains the completed forms used for these examples. The completed forms in Appendix C also serve as an example of how to fill out and use those forms. In addition to the data forms listing hours, inches, times, gallons per minute (gpm), and/or total gallons, there is a registration form filled out to demonstrate the information being requested for contacting the user and for locating the wells and intakes in use. Along with the registration form is a Google map showing the wells and the coordinates for each well. The last form, an example of the reporting form, is required to be submitted and should provide the total pumpage from each well or intake. The ISWS would prefer that users submit copies of all data forms, it will save you from additional contact with the ISWS to clarify information on the reporting form should questions arise, but submission of the registration form and the reporting form are all that are required.

These examples involve 3 center pivot irrigation systems. In example 1, each field has one crop, and each has a separate well. 1a assumes each well has a flow meter that can directly provide total gallons. 1b uses the acre-inches estimation method. 1c uses the rated system flow rate in gallons per minute and total hours ran.

**Example 1: Three Fields, Each With Its Own Well**



**Example 1a Direct Read Flow Meter Readings** (data from form labeled 1a in Appendix C)

Well 1: 19,872,278 Total Gallons for Well 1

Well 2: 27,437,123 Total Gallons for Well 2

Well 3: 9,000,021 Total Gallons for Well 3

**Example 1b Acre-Inches Estimation method** (data from form labeled 1b in Appendix C)

If each well irrigates a single field, estimate irrigation for each field by multiplying the inches applied to the field by the size of the field in acres (on form), and then multiply by a conversion factor (27150) to convert the value to gallons.

\_\_\_\_\_ Acre-Inches applied to field x 27150 = \_\_\_\_\_ Total Gallons to report

Field A: 750 Acre-Inches applied to field A x 27150 = 20,362,500 Total Gallons for Well 1

Field B: 1040 Acre-Inches applied to field B x 27150 = 28,236,000 Total Gallons for Well 2

Field C: 350 Acre-Inches applied to field C x 27150 = 9,502,500 Total Gallons for Well 3

**Example 1c Design Flow Rate and Hours Ran Estimation Method** (data from form labeled 1c in Appendix C)

If each well irrigates a single field, estimate irrigation for each field by multiplying your systems rating in gallons per minute (gpm) by the number of hours the system ran for the season, and then multiply by 60.

\_\_\_\_\_ rated gallons per minute x \_\_\_\_\_ hours x 60 minutes per hour = \_\_\_\_\_ Total Gallons to report

Field A: 750 rated gallons per minute x 500 hours x 60 minutes per hour = **22,500,000** Total Gallons for Well 1

Field B: 750 rated gallons per minute x 650 hours x 60 minutes per hour = **29,250,000** Total Gallons for Well 2

Field C: 450 rated gallons per minute x 360 hours x 60 minutes per hour = **9,720,000** Total Gallons for Well 3

In the 2<sup>nd</sup> example, there are two wells for all three pivots. The completed reporting forms show how reporting changes based on each scenario. Similarly, if a single pivot is irrigating a field with two different crops that have different irrigation schedules, each crop should be treated as a separate field so that total pumpage can be accurately determined. The ISWS will assist any participant in completing these forms.

**Example 2: 3 fields, One Well for Two Large Pivots (Fields A and B),  
One Well for Small Pivot (Field C).**



**Example 2a Flow Meter Readings (data from form labeled 2a in Appendix C)**

Well 1: 47,309,401 Total Gallons for Well 1 (assumes meter is for well and not each pivot)

Well 3: 9,000,021 Total Gallons for Well 3



**Example 2b Acre-Inches Estimation method** (data from form labeled 2b in Appendix C)

If a single well irrigates multiple fields, estimate irrigation for the well by multiplying the inches applied to each field by the size of the field in acres, and then multiply by a conversion factor (27150) to convert the value to gallons. Add together total gallons for each field to get total gallons used for that well.

Step 1: \_\_\_\_\_ Inches applied to field x \_\_\_\_\_ acres x 27150 = \_\_\_\_\_ Total Gallons for Field

Step 2: Total gallons Field A + total gallons Field B+... = \_\_\_\_\_ Total Gallons for Well

Field A: 750 Acre-Inches applied to field A x 27150 = 20,362,500 Total Gallons for Field A

Field B: 1040 Acre-Inches applied to field B x 27150 = 28,236,000 Total Gallons for Field B

Add total gallons for Field A and B = 48,598,500 **Total Gallons for Well 1**

Field C: 350 Acre-Inches applied to field C x 27150 = 9,502,500 **Total Gallons for Well 3**

**Example 2c Design Flow Rate and Hours Ran Estimation Method** (data from forms labeled 2c in Appendix C)

If a single well is used to irrigate multiple fields, estimate irrigation for the well by multiplying the systems rating in gallons per minute (gpm) for each field by the total annual hours that system ran for the season, and then multiply by 60. Add together total gallons for each field to get total gallons used for that well.

Step 1: \_\_\_\_\_ rated gallons per minute x \_\_\_\_\_ hours x 60 minutes per hour = \_\_\_\_\_ Total Gallons for Field

Step 2: Total gallons Field A + total gallons Field B+... = \_\_\_\_\_ Total Gallons for Well

Field A & B: 750 rated gallons per minute x 1150 hours x 60 minutes/hour = 51,750,000 **Total Gallons for Well 1**

Field C: 450 rated gallons per minute x 360 hours x 60 minutes per hour = 9,720,000 **Total Gallons for Well 3**

## **Terminology and Template Information**

### **Registration Page Well/Intake Information**

*ISWS Well ID* - a 5 or 6 digit number ISWS staff will typically refer to as a P Number. Every water well log in the state is sent to the ISWS from county health departments, they are public information in Illinois. Every log is assigned an ID number and the data are entered into a database. The ISWS will use the well information you provide to match up the data to the logs in this database. If it happens the ISWS doesn't have your well(s) in this database, they will create a log with the information provided and give your well(s) an ID Number.

*FIPS Code* – 3 digit county code, provided here in Appendix D. Every irrigator will be assigned a “facility” ID, representing their farming business. The first 3 digits of this ID are the FIPS code identifying the county you operate in, or more specifically, where your wells and intakes are located.

*GPS coordinates* – a latitude and longitude location for your well or intake. A help video will be available on the ISWS irrigation reporting website to help you understand how to get this information using Google maps.

*Tier, Range, and Section* – the legal description of your well location. If you have the well log that the driller filed with the county, it has this information.

*Original well owner, well depth, and well driller* – Some of the basic information available on your well log. The ISWS is requesting this information for the sole purpose of matching this information to the well logs on file, and when a log cannot be found, use it to create a well log in our database. Again, well logs are public information, available online at the ISWS or ISGS websites.

### **Reporting Form**

The reporting form is similar to the forms that have been used for the last 30 years of the IWIP program. Each well and intake is listed for each “facility” along with basic well/intake information and a blank line to fill in the total gallons for each individual well and intake.

*Confidentiality Statement* – signing the form, which acknowledges that your water withdrawal data is confidential, proprietary, and privileged commercial information, allows the ISWS to protect the information from public disclosure and public requests for information. The online system will have a similar option to check a box to acknowledge that you consider your data confidential, proprietary, and privileged commercial information.

*Well or Intake* – The local name you give your well.

*ISWS Well ID* – same as above, the ISWS database assigns an ID number to every well log. In the initial year that a well is listed, an ID may not be available because we haven't matched a well to your facility ID, but once registered, a reporting form will be generated for each facility annually that can be accessed online and printed or filled in online, and all of the wells already identified with a facility will have this pre-populated on the form, as will contact information, and location information.

*Status* – in some cases, a well may not be used, may be abandoned, or be sealed. Please provide an update annually of the status of each of your wells. Every well should fit into one of these categories: In-Use, Sealed, Abandoned, Emergency, or Unused.

*Range, Section, Plot* – These will be pre-populated for facilities that have registered or reported in previous years. If you attach the registration form or registered prior to submitting your reporting form, you won't need to fill this information out a second time.

*Method* – please indicate if the total gallons for each well and intake was determined by flow meter, acre-inches, or flow rate-hours. Please provide copies of the data sheets used to determine total pumpage.

*Annual Gallons* – the total gallons pumped that year from that well or intake. See the example reporting form in Appendix C to better understand what a completed form should look like.

## Appendix A. (525 ILCS 45/) Water Use Act of 1983.

(taken from the Illinois General Assembly website,  
<http://www.ilga.gov/legislation/ilcs/ilcs3.asp?ActID=1743&ChapterID=44>)

(525 ILCS 45/1) (from Ch. 5, par. 1601)

Sec. 1. This Act shall be known and may be cited as the "Water Use Act of 1983".  
(Source: P.A. 83-700.)

(525 ILCS 45/2) (from Ch. 5, par. 1602)

Sec. 2. Declaration of Policy. The General Assembly declares it to be in the public interest to better manage and conserve water, to establish a mechanism for restricting withdrawals of groundwater in emergencies, and to provide for public notice of planned substantial withdrawals of water after the effective date of this Act from new points of withdrawal before water is withdrawn.  
(Source: P.A. 85-483.)

(525 ILCS 45/3) (from Ch. 5, par. 1603)

Sec. 3. Purpose. The general purpose and intent of this Act is to establish a means of reviewing potential water conflicts before damage to any person is incurred and to establish a rule for mitigating water shortage conflicts by:

(a) Providing authority for County Soil and Water Conservation Districts to receive notice of incoming substantial users of water.

(b) Authorizing Soil and Water Conservation Districts to recommend restrictions on withdrawals of groundwater in emergencies.

(c) Establishing a "reasonable use" rule for groundwater withdrawals.

(Source: P.A. 96-222, eff. 1-1-10.)

(525 ILCS 45/4) (from Ch. 5, par. 1604)

Sec. 4. Definitions. As used in this Act, unless the context otherwise requires:

"Department" means the Illinois Department of Agriculture.

"District" or "Soil and Water Conservation District" means a public body, corporate and political, organized under the "Soil and Water Conservation Districts Act".

"Geological Survey" means the Illinois State Geological Survey.

"Groundwater" means underground water which occurs within the saturated zone and geologic materials where the fluid pressure in the pore space is equal to or greater than atmospheric pressure.

"High-capacity intake" means a surface water intake located on a parcel of property where the rate or capacity of water withdrawal of all intakes for the property is equal to or in excess

of 100,000 gallons during any 24-hour period.

"High-capacity well" means a well located on a parcel of property where the rate or capacity of water withdrawal of all wells on the property is equal to or in excess of 100,000 gallons during any 24-hour period.

"Land occupier" or "occupier of land" includes any individual, firm or corporation, other than the owner, who is in legal possession of any land in the State of Illinois whether as a lessee, renter, tenant or otherwise.

"Person" means any owner of land or the owners' designated agent including any individual, partnership, firm, association, joint venture, corporation, trust, estate, commission, board, public or private institution, unit of local government, school district, political subdivision of this state, state agency, any interstate body or any other legal entity.

"Point of withdrawal" means that point at which underground water is diverted by a person from its natural state.

"Public water supply" means all mains, pipes, and structures through which water is obtained and distributed to the public, including wells and well structures, intakes and cribs, pumping stations, treatment plants, reservoirs, storage tanks, and appurtenances, collectively or severally, actually used or intended for use for the purpose of furnishing water for drinking or general domestic use and which serve at least 15 service connections or which regularly serve at least 25 persons at least 60 days per year.

"Reasonable use" means the use of water to meet natural wants and a fair share for artificial wants. It does not include water used wastefully or maliciously.

"State" means the State of Illinois.

"Surface water" means a pond, lake, reservoir, stream, creek, or river.

"Water authority" means a local governmental body established by referendum under the Water Authorities Act (70 ILCS 3715/).

"Water survey" means the Illinois State Water Survey.

(Source: P.A. 96-222, eff. 1-1-10.)

(525 ILCS 45/5) (from Ch. 5, par. 1605)

Sec. 5. Water Conflict Resolution. In the event that a land occupier or person proposes to develop a new point of withdrawal, and the new point is a high-capacity well, the land occupier or person shall notify the District before construction of the well begins. The District shall in turn notify other local units of government with water systems who may be impacted by the proposed withdrawal. The District shall then review with the assistance of the Illinois State Water Survey and the State Geological Survey the proposed point of withdrawal's effect

upon other users of the water. The review shall be completed within 30 days of receipt of the notice. The findings of such reviews shall be made public.

(Source: P.A. 96-222, eff. 1-1-10.)

(525 ILCS 45/5.1) (from Ch. 5, par. 1605.1)  
Sec. 5.1. Groundwater Emergency

Restrictions.

(a) Each District within any county in Illinois through which the Iroquois River flows, and each District within any county in Illinois with a population in excess of 100,000 through which the Mackinaw River flows, is authorized to recommend to the Department of Agriculture restrictions on groundwater withdrawal as provided by this Section.

A land occupier or person who possesses land which contains an existing point of withdrawal that is a high-capacity well or is proposing a new point of withdrawal that is a high-capacity well shall register that point of withdrawal with the District and shall furnish such reasonable data in such form as may be required by the District.

(b) The District, with the assistance and approval of the Department of Agriculture, shall issue recommended guidelines for the construction of points of withdrawal and the type and setting of pumps for use in those points of withdrawal. Copies of the guidelines shall be made available from the District upon request.

(c) Within 2 working days after receiving a written complaint from a land occupier or a person whose point of withdrawal has failed to furnish its normal supply of water, the District shall schedule an on-site investigation. If the investigation discloses (1) that the point of withdrawal fails to furnish its normal supply of water, (2) that the failure is caused by a substantial lowering of the level of groundwater in the area, and (3) that the point of withdrawal and its equipment conform to the recommended guidelines of the District issued under subsection (b), the District may recommend to the Department of Agriculture that the Department restrict the quantity of water that a person may extract from any high-capacity well within the District's boundaries. The restriction shall be expressed in gallons of water, may apply to one or more points of withdrawal within the District, and may be broadened or narrowed as appropriate. The restrictions shall be lifted as soon as justified by changed conditions.

(d) When a District determines that restriction of the withdrawal of water at a particular point within the District is necessary to preserve an adequate water supply for all residents in the District, the District may recommend to the Department of Agriculture that

the Department restrict the quantity of water that may be extracted from any point of withdrawal within the District which is a high-capacity well. The Department shall review the District's recommendation and if it agrees with such recommendation shall restrict the withdrawal of water within the District in accordance with subsection (c) and shall notify each land occupier or person who possesses land which contains a registered point of withdrawal affected by the restriction.

If the Department disagrees with the District's recommendation, it shall notify the District, the land occupier or the person who possesses land which contains a registered point of withdrawal affected by the recommendation and the complainant, giving the reason for the failure to affirm the recommendation. The Department may propose an alternate recommendation.

If the District, the respondent or the complainant disagrees with the decision of the Department, such person may request an administrative hearing to be conducted by the Department in accordance with the Illinois Administrative Procedure Act to show cause concerning its decision.

Final decisions of the Department pursuant to this Section may be appealed in accordance with the Administrative Review Law.

(e) The Department is authorized to promulgate rules and regulations, including emergency rules, for the implementation of this amendatory Act of 1987. The Department may set the general policy for the Districts to follow in the administration of this Act.

(Source: P.A. 96-222, eff. 1-1-10.)

(525 ILCS 45/5.2) (from Ch. 5, par. 1605.2)

Sec. 5.2. Investigation and review - Entry upon land. Persons investigating a complaint or conducting a review on behalf of the Department or District of the impact of a proposed or existing well that is required to be registered may enter upon private property for the purpose of conducting an investigation and may review any records pertaining to pumping data.

(Source: P.A. 85-1330.)

(525 ILCS 45/5.3)

Sec. 5.3. Water use reporting. Any person or land occupier that is responsible for a point of withdrawal classified as a high-capacity well, high-capacity intake, or public water supply shall participate in the Illinois State Water Survey's Illinois Water Inventory Program. However, high-capacity wells used for agricultural irrigation and high-capacity intakes used for agricultural irrigation are exempt from this Section for the first 5 years after the

effective date of this amendatory Act of the 96th General Assembly. A person or land occupier that is responsible for a point of withdrawal classified as a high-capacity well or high-capacity intake used for irrigation for agriculture shall determine water use through estimation methods deemed acceptable by the Illinois State Water Survey. A person or land occupier that is responsible for a point of withdrawal that is classified as a high-capacity well or a high-capacity intake used for irrigation that lies within the boundaries of a water authority or other local government entity that estimates irrigation withdrawals through a method deemed acceptable by the Illinois State Water Survey is exempt from participating as an individual in the Illinois Water Inventory Program.

(Source: P.A. 96-222, eff. 1-1-10.)

(525 ILCS 45/6) (from Ch. 5, par. 1606)

Sec. 6. Reasonable Use. The rule of "reasonable use" shall apply to groundwater withdrawals in the State.

(Source: P.A. 83-700.)

(525 ILCS 45/7) (from Ch. 5, par. 1607)

Sec. 7. Penalties. Any person who fails to register a point of withdrawal pursuant to subsection (a) of Section 5.1, or who fails to notify the District of a proposed new point of withdrawal pursuant to Section 5, or who fails to restrict withdrawals of water pursuant to subsection (b) of Section 5.1 shall be guilty of a petty offense. Any person who is convicted of a second or subsequent offense shall be guilty of a Class C misdemeanor.

(Source: P.A. 85-483.)



## **Appendix B. Blank Forms For Irrigation Reporting**

Irrigation Registration for the Illinois Water Inventory Program  
Illinois State Water Survey

**Operator/Irrigator Contact Information**

Last Name	First Name	
Street Address	City	State, Zip Code
Home Phone	Cell Phone	Email

**Land Owner Contact Information (leave blank if the same)**

Last Name	First Name	
Street Address	City	State, Zip Code
Home Phone	Cell Phone	Email
Total Number of Wells and Intakes _____		

Well/Intake Information (please use additional sheets if necessary, every withdrawal point should be listed)

1st Well or Intake ISWS Well ID (if known) _____ County/Fips Code _____ GPS Coordinates _____ <hr/> Or Legal Description Township _____ Tier _____ Range _____ Section _____ Original Well Owner _____ Well Depth _____ Well Driller _____ Year Drilled _____	2nd Well or Intake ISWS Well ID (if known) _____ County/Fips Code _____ GPS Coordinates _____ <hr/> Or Legal Description Township _____ Tier _____ Range _____ Section _____ Original Well Owner _____ Well Depth _____ Well Driller _____ Year Drilled _____	3rd Well or Intake ISWS Well ID (if known) _____ County/Fips Code _____ GPS Coordinates _____ <hr/> Or Legal Description Township _____ Tier _____ Range _____ Section _____ Original Well Owner _____ Well Depth _____ Well Driller _____ Year Drilled _____
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4th Well or Intake ISWS Well ID (if known) _____ County/Fips Code _____ GPS Coordinates _____ <hr/> Or Legal Description Township _____ Tier _____ Range _____ Section _____ Original Well Owner _____ Well Depth _____ Well Driller _____ Year Drilled _____	5th Well or Intake ISWS Well ID (if known) _____ County/Fips Code _____ GPS Coordinates _____ <hr/> Or Legal Description Township _____ Tier _____ Range _____ Section _____ Original Well Owner _____ Well Depth _____ Well Driller _____ Year Drilled _____	6th Well or Intake ISWS Well ID (if known) _____ County/Fips Code _____ GPS Coordinates _____ <hr/> Or Legal Description Township _____ Tier _____ Range _____ Section _____ Original Well Owner _____ Well Depth _____ Well Driller _____ Year Drilled _____
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**Email forms to: [isws-iwip@isws.illinois.edu](mailto:isws-iwip@isws.illinois.edu) or  
Mail to: Illinois State Water Survey-IWIP Reporting  
2204 Griffith Dr. Champaign, IL 61820-7463**

Operator/Irrigator Name or Facility ID \_\_\_\_\_

ISWS Well ID Number \_\_\_\_\_

Acres Irrigated for Well \_\_\_\_\_

Facility Well Name/Local Well Name \_\_\_\_\_

Flowmeter - Direct Readings of Gallons Pumped

Date	Reading	Notes
		Initial Reading
		Final Reading for Year
		Total Gallons (final - initial)

If the meter is on the pivot, and the well supplies more than one field/pivot, then combine meter information to provide a total for the well on the reporting form.

State Water Survey at  
healy19@illinois.edu or  
217-244-9674

Operator/Irrigator

Name or Facility ID \_\_\_\_\_

ISWS Well ID Number \_\_\_\_\_

Acres Irrigated for \_\_\_\_\_

Facility Well Name/Local Well \_\_\_\_\_

Well \_\_\_\_\_

Name \_\_\_\_\_

Acres-Inches Method

Start Date	Inches Applied	End Date	Acres	Field Name	Acre-inches - acres x inches	Comments (changes/maintenance?)
<b>Totals</b>				27150 X		= _____ Total Gallons for Well

Operator/Irrigator  
 Name or Facility ID \_\_\_\_\_  
 Acres Irrigated for  
 Well \_\_\_\_\_  
 System Rating gpm \_\_\_\_\_

ISWS Well ID Number \_\_\_\_\_  
 Facility Well Name/Local  
 Well Name \_\_\_\_\_

Rated Gallons per Minute - Time Method

Start Date	Field Name	Starting Time or Hour Meter Reading	Ending Time or Hour Meter Reading	Total Hours Ran	Total Gallons - gpm x total hours x 60	Comments (changes/maintenance?)
						= Total Gallons



**ILLINOIS STATE  
WATER SURVEY**  
PRAIRIE RESEARCH INSTITUTE

# Illinois Water Inventory Program

2204 Griffith Drive - Champaign, IL 61820-7495 - Phone (217) 333-0239 - Fax (217) 244-0777

Facility Number:

Facility Name:

Address:

City:

State:            Zip:

**Contact Person:**

**Contact Title:**

**Phone:**            **Fax:**

**E-mail:**

Please list wells, surface water intakes, and locational information on the lines below. If reported amounts are not in gallons, please indicate units of measurement.

The water use data disclosed on this form is considered proprietary, privileged, or confidential commercial information by the entity providing the information:

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed name

\_\_\_\_\_  
Title

## Agricultural Irrigation Water Withdrawals for Year 2015

### TOTAL GALLONS PUMPED FROM WELLS AND INTAKES

Well or Intake	ISWS Well ID	Status	Range	Section and Plot	Method	Annual Gallons
Total Gallons Withdrawn from Wells and Intakes =						

Please add any comments or information here regarding changes in any wells, or any other relevant information.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Please return this form to: Illinois State Water Survey, IWIP Program, 2204 Griffith Drive, Champaign, IL 61820, or email to healy19@illinois.edu.

## Appendix C. Completed Example Forms

Irrigation Registration for the Illinois Water Inventory Program  
Illinois State Water Survey

**Operator/Irrigator Contact Information**

<u>Irrigator</u>	<u>John</u>	
Last Name	First Name	
<u>123 W. 200 N. Rd.</u>	<u>San Pedro</u>	<u>IL 69999</u>
Street Address	City	State, Zip Code
<u>(217) 999-9999</u>	<u>(217) 999-0000</u>	<u>Irrigator@gmail.com</u>
Home Phone	Cell Phone	Email

**Land Owner Contact Information (leave blank if the same)**

<u>Same</u>		
Last Name	First Name	
Street Address	City	State, Zip Code
Home Phone	Cell Phone	Email

Total Number of Wells and Intakes \_\_\_\_\_

Well/Intake Information (please use additional sheets if necessary, every withdrawal point should be listed)

<p>1st Well <input checked="" type="checkbox"/> or Intake <input type="checkbox"/></p> <p>ISWS Well ID (if known) <u>unknown</u></p> <p>County/Fips Code <u>125</u></p> <p>GPS Coordinates <u>40.314569</u> <u>-89.604670</u></p> <p>Or Legal Description</p> <p>Township <u>Jonesboro</u></p> <p>Tier <u>T 7 N</u></p> <p>Range <u>R 3 W</u></p> <p>Section <u>12</u></p> <p>Original Well Owner <u>J. Irrigator</u></p> <p>Well Depth <u>160 ft</u></p> <p>Well Driller <u>Massive Drilling</u></p> <p>Year Drilled <u>1985</u></p>	<p>2nd Well <input checked="" type="checkbox"/> or Intake <input type="checkbox"/></p> <p>ISWS Well ID (if known) <u>458123</u></p> <p>County/Fips Code <u>Mason (125)</u></p> <p>GPS Coordinates <u>40° 5' 16.6" N</u> <u>-88° 21' 21.4" W</u></p> <p>Or Legal Description</p> <p>Township <u>Jonesboro</u></p> <p>Tier <u>T 07 N</u></p> <p>Range <u>R 03 W</u></p> <p>Section <u>12</u></p> <p>Original Well Owner <u>J. Irrigator</u></p> <p>Well Depth <u>175 ft</u></p> <p>Well Driller <u>Massive Drilling</u></p> <p>Year Drilled <u>unknown</u></p>	<p>3rd Well <input type="checkbox"/> or Intake <input checked="" type="checkbox"/></p> <p>ISWS Well ID (if known) <u>unknown</u></p> <p>County/Fips Code <u>Mason</u></p> <p>GPS Coordinates <u>40.310929</u> <u>-89.609814</u></p> <p>Or Legal Description</p> <p>Township <u>Jonesboro</u></p> <p>Tier <u>T 7 N</u></p> <p>Range <u>R 3 W</u></p> <p>Section <u>12</u></p> <p>Original Well Owner <u>J. Irrigator (Father)</u></p> <p>Well Depth <u>N/A</u></p> <p>Well Driller <u>N/A</u></p> <p>Year Drilled <u>N/A</u></p>
---	--	---

<p>4th Well <input type="checkbox"/> or Intake <input type="checkbox"/></p> <p>ISWS Well ID (if known) _____</p> <p>County/Fips Code _____</p> <p>GPS Coordinates _____</p> <p>Or Legal Description</p> <p>Township _____</p> <p>Tier _____</p> <p>Range _____</p> <p>Section _____</p> <p>Original Well Owner _____</p> <p>Well Depth _____</p> <p>Well Driller _____</p> <p>Year Drilled _____</p>	<p>5th Well <input type="checkbox"/> or Intake <input type="checkbox"/></p> <p>ISWS Well ID (if known) _____</p> <p>County/Fips Code _____</p> <p>GPS Coordinates _____</p> <p>Or Legal Description</p> <p>Township _____</p> <p>Tier _____</p> <p>Range _____</p> <p>Section _____</p> <p>Original Well Owner _____</p> <p>Well Depth _____</p> <p>Well Driller _____</p> <p>Year Drilled _____</p>	<p>6th Well <input type="checkbox"/> or Intake <input type="checkbox"/></p> <p>ISWS Well ID (if known) _____</p> <p>County/Fips Code _____</p> <p>GPS Coordinates _____</p> <p>Or Legal Description</p> <p>Township _____</p> <p>Tier _____</p> <p>Range _____</p> <p>Section _____</p> <p>Original Well Owner _____</p> <p>Well Depth _____</p> <p>Well Driller _____</p> <p>Year Drilled _____</p>
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Email forms to: [isws-iwip@isws.illinois.edu](mailto:isws-iwip@isws.illinois.edu) or  
Mail to: Illinois State Water Survey-IWIP Reporting  
2204 Griffith Dr. Champaign, IL 61820-7463



3

Well 1

Well 3

Well 2



# Example Ia. Flowmeter

Operator/Irrigator Name or Facility ID John Irrigator ISWS Well ID Number ?

Acres Irrigated for Well 125 Facility Well Name/Local Well Name well I

If the meter is on the pivot, and the well supplies more than one field/pivot, then combine meter information to provide a total for the well on the reporting form.

Date	Reading	Notes
April 12, 2015	96,265,206	Initial Reading
June 1	102,513,694	2x in May
July 1	106,034,932	1x in June
Aug 1	116,137,484	3x in July
Sept 30	116,137,484	Final Reading for Year
19,872,278		Total Gallons (final - initial)

State Water Survey at  
healy19@illinois.edu or  
217-244-9674













# Example 1.b. Acre Inches Method (and 2.b for Well 3)

Operator/Irrigator John Irrigator ISWS Well ID Number \_\_\_\_\_  
 Name of Facility ID 35 Facility Well Name/Local Well Name Well 3  
 Acres Irrigated for Well \_\_\_\_\_

Start Date	Inches Applied	End Date	Acres	Field Name	Acres-inches - acres x inches	Comments (changes/maintenance?)
May 12, 2015	1.25		35	Field C	43.75	
May 23, 2015	1.25				43.75	
June 10, 2015	1.25				43.75	
July 1, 2015	1.25				43.75	
July 10, 2015	1.25				43.75	
July 20, 2015	1.25				43.75	
Aug 1, 2015	1.25				43.75	
Aug 8, 2015	1.25				43.75	
<b>Totals</b>	<b>10"</b>			27150 X	350	= 9,502,500 Total Gallons for Well



Example 2b. Acre-Inches Method

Operator/Irrigator  
Name or Facility ID  
Acres Irrigated for  
Well

John Irrigator ISWS Well ID Number ?  
Field A 125 ac Facility Well Name/Local Well Name  
Field B-130 ac Well 1

Start Date	Inches Applied	End Date	Acres	Field Name	Acre-inches - acres x inches	Comments (changes/maintenance?)
May 10, 2015	1.0		130	Field B	130	
May 12, 2015	1.0		125	Field A	125	
May 23, 2015	1.0		125	Field A	125	
May 30, 2015	1.0		130	Field B	130	
June 8, 2015	1.0		130	Field B	130	
June 10, 2015	1.0		125	Field A	125	
June 26, 2015	1.0		130	Field B	130	
July 8, 2015	1.0		125	Field A	125	
July 12, 2015	1.0		130	Field B	130	
July 18, 2015	1.0		125	Field A	125	
July 22, 2015	1.0		130	Field B	130	
July 31, 2015	1.0		125	Field A	125	
Aug 1, 2015	1.0		130	Field B	130	
Aug 10, 2015	1.0		130	Field B	130	
Totals				27150 X	1790	= 48,598,500 Total Gallons for Well





Example Ic. Flow Rate (gpm) x Hours

Operator/Irrigator  
 Name or Facility ID  
 Acres Irrigated for  
 Well  
 System Rating gpm

John Irrigator  
 130  
 750

ISWS Well ID Number  
 Facility Well Name/Local  
 Well Name  
 Crop-type

458123  
 Well 2  
 field corr

Rated Gallons per Minute - Time Method

Start Date	Field Name	Starting Time or Hour Meter Reading	Ending Time or Hour Meter Reading	Total Hours Ran	Total Gallons - gpm x total hours x 60	Comments (changes/maintenance?)
May 10, 2015	Field B	hour meter on pivot	464.6			initial reading in april
May 30, 2015						
June 8, 2015						
June 26, 2015						
July 12, 2015						
July 22, 2015						
Aug 1, 2015						
Aug 10, 2015	↓					
			1114.6			final hours
			650			
			650 X 750 X 60			
				650	29,250,000	= Total Gallons



# Example 2.C. Flow Rate (gpm) x Hours

?

Operator/Irrigator John Irrigator ISWS Well ID Number \_\_\_\_\_  
 Name or Facility ID \_\_\_\_\_  
 Acres Irrigated for Well 125 \* 130 = 255 Facility Well Name/Local Well Name Well 1  
 System Rating gpm 750 gpm Crop-type \_\_\_\_\_

Rated Gallons per Minute - Time Method

Start Date	Field Name	Starting Time or Hour Meter Reading	Ending Time or Hour Meter Reading	Total Hours Ran	Total Gallons - gpm x total hours x 60	Comments (changes/maintenance?)
May 10, 2015	Field A+B	6046.0				hour meter on diesel motor
		7196.0		1150		
					<u>1150 x 750 x 60</u>	
					<u>51,750,000</u>	= Total Gallons





ILLINOIS STATE  
WATER SURVEY  
PRAIRIE RESEARCH INSTITUTE

Example Reporting  
Form

# Illinois Water Inventory Program

2204 Griffith Drive - Champaign, IL 61820-7495 - Phone (217) 333-0239 - Fax (217) 244-0777

Facility Number: unknown  
Facility Name: R+J Irrigator Farms, LLC  
Address: 123 W 200N Rd  
City: San Pedro  
State: IL Zip: 69999

Contact Person: John Irrigator  
Contact Title: Farm Manager / Owner  
Phone: <sup>217</sup>217-2171 Fax: X  
E-mail: jirrigator@aol.com

Please list wells, surface water intakes, and locational information on the lines below. If reported amounts are not in gallons, please indicate units of measurement.

The water use data disclosed on this form is considered proprietary, privileged, or confidential commercial information by the entity providing the information:

J Irrigator                      J Irrigator                      Owner  
Signature                              Printed name                              Title

## Agricultural Irrigation Water Withdrawals for Year 2015

### TOTAL GALLONS PUMPED FROM WELLS AND INTAKES

Well or Intake	ISWS Well ID	Status	Range	Section and Plot	<del>Depth</del> Method	Annual Gallons
Well 1	-	In-Use			Flow meter	19,872,278
Well 2	458123	In-Use			acre-inches	28,236,000
Well 3	-	In-Use			flow-rate hours	9,720,000
		In-Use				
		In-Use				
		In-Use				
		In-Use				
		In-Use				
		In-Use				
		In-Use				
		In-Use				

Total Gallons Withdrawn from Wells and Intakes ..... \* 57,828,278

Please add any comments or information here regarding changes in any wells, or any other relevant information.  
Well 3 was just drilled in 2013.

Please return this form to: Illinois State Water Survey, IWIP Program, 2204 Griffith Drive, Champaign, IL 61820, or email to healy19@illinois.edu.

## Appendix D. Illinois County FIPS Codes

### County Name FIPS Code

ADAMS	001		
ALEXANDER	003	JERSEY	083
BOND	005	JO DAVIESS	085
BOONE	007	JOHNSON	087
BROWN	009	KANE	089
BUREAU	011	KANKAKEE	091
CALHOUN	013	KENDALL	093
CARROLL	015	KNOX	095
CASS	017	LA SALLE	099
CHAMPAIGN	019	LAKE	097
CHRISTIAN	021	LAWRENCE	101
CLARK	023	LEE	103
CLAY	025	LIVINGSTON	105
CLINTON	027	LOGAN	107
COLES	029	MACON	115
COOK	031	MACOUPIN	117
CRAWFORD	033	MADISON	119
CUMBERLAND	035	MARION	121
DE WITT	039	MARSHALL	123
DEKALB	037	MASON	125
DOUGLAS	041	MASSAC	127
DUPAGE	043	MCDONOUGH	109
EDGAR	045	MCHENRY	111
EDWARDS	047	MCLEAN	113
EFFINGHAM	049	MENARD	129
FAYETTE	051	MERCER	131
FORD	053	MONROE	133
FRANKLIN	055	MONTGOMERY	135
FULTON	057	MORGAN	137
GALLATIN	059	MOULTRIE	139
GREENE	061	OGLE	141
GRUNDY	063	PEORIA	143
HAMILTON	065	PERRY	145
HANCOCK	067	PIATT	147
HARDIN	069	PIKE	149
HENDERSON	071	POPE	151
HENRY	073	PULASKI	153
IROQUOIS	075	PUTNAM	155
JACKSON	077	RANDOLPH	157
JASPER	079	RICHLAND	159
JEFFERSON	081	ROCK ISLAND	161
		SALINE	165
		SANGAMON	167
		SCHUYLER	169
		SCOTT	171
		SHELBY	173
		ST. CLAIR	163
		STARK	175
		STEPHENSON	177
		TAZEWELL	179
		UNION	181
		VERMILION	183
		WABASH	185
		WARREN	187
		WASHINGTON	189
		WAYNE	191
		WHITE	193
		WHITESIDE	195
		WILL	197
		WILLIAMSON	199
		WINNEBAGO	201
		WOODFORD	203