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SALUS POPULI SUPREMA LEX ESTO

"The welfare of the people shall be the supreme law."

ROBIN CARNAHAN

SECRETARY OF STATE

MISSOURI REGISTER

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Robin Carnahan

Administrative Rules Division
James C. Kirkpatrick State Information Center
600 W. Main
Jefferson City, MO 65101
(573) 751-4015

Director
Waylene W. Hiles

•

Editors
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Associate Editor
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•

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•

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•

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Documents will be accepted for filing on all regular workdays from 8:00 a.m. until 5:00 p.m. We encourage early filings to facilitate the timely publication of the *Missouri Register*. Orders of Rulemaking appearing in the *Missouri Register* will be published in the *Code of State Regulations* and become effective as listed in the chart above. Advance notice of large volume filings will facilitate their timely publication. We reserve the right to change the schedule due to special circumstances. Please check the latest publication to verify that no changes have been made in this schedule. To review the entire year's schedule, please check out the website at http://www.sos.mo.gov/adrules/pubsched.asp

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HOW TO CITE RULES AND RSMo

RULES—Cite material in the *Missouri Register* by volume and page number, for example, Vol. 28, *Missouri Register*, page 27. The approved short form of citation is 28 MoReg 27.

The rules are codified in the *Code of State Regulations* in this system—

Title	***Code of State Regulations***	**Division**	**Chapter**	**Rule**
1	CSR	10-	1.	010
Department		Agency, Division	General area regulated	Specific area regulated

They are properly cited by using the full citation , i.e., 1 CSR 10-1.010.

Each department of state government is assigned a title. Each agency or division within the department is assigned a division number. The agency then groups its rules into general subject matter areas called chapters and specific areas called rules. Within a rule, the first breakdown is called a section and is designated as (1). Subsection is (A) with further breakdown into paragraph 1., subparagraph A., part (I), subpart (a), item I. and subitem a.

RSMo—The most recent version of the statute containing the section number and the date.

Rules appearing under this heading are filed under the authority granted by section 536.025, RSMo 2000. An emergency rule may be adopted by an agency if the agency finds that an immediate danger to the public health, safety, or welfare, or a compelling governmental interest requires emergency action; follows procedures best calculated to assure fairness to all interested persons and parties under the circumstances; follows procedures which comply with the protections extended by the *Missouri* and the *United States Constitutions*; limits the scope of such rule to the circumstances creating an emergency and requiring emergency procedure, and at the time of or prior to the adoption of such rule files with the secretary of state the text of the rule together with the specific facts, reasons, and findings which support its conclusion that there is an immediate danger to the public health, safety, or welfare which can be met only through the adoption of such rule and its reasons for concluding that the procedure employed is fair to all interested persons and parties under the circumstances.

Rules filed as emergency rules may be effective not less than ten (10) days after filing or at such later date as may be specified in the rule and may be terminated at any time by the state agency by filing an order with the secretary of state fixing the date of such termination, which order shall be published by the secretary of state in the *Missouri Register* as soon as practicable.

All emergency rules must state the period during which they are in effect, and in no case can they be in effect more than one hundred eighty (180) calendar days or thirty (30) legislative days, whichever period is longer. Emergency rules are not renewable, although an agency may at any time adopt an identical rule under the normal rulemaking procedures.

Title 15—ELECTED OFFICIALS
Division 50—Treasurer
Chapter 4—Missouri Higher Education Savings Program

EMERGENCY RULE

15 CSR 50-4.030 Missouri MOST 529 Matching Grant Program

PURPOSE: *This rule sets forth the criteria to be used by the Missouri Higher Education Savings Program Board regarding the awarding of matching grants to eligible participants in the Missouri Higher Education Savings Program under the MOST 529 Matching Grant Program.*

EMERGENCY STATEMENT: *The MOST 529 Matching Grant Program is a new program, authorized by the Missouri Higher Education Savings Program Board in January of 2012 during an open meeting of the board. A rule is needed in order to set forth the eligibility requirements approved by the board to allow for the implementation of the MOST 529 Matching Grant Program. A summary of the program, including the eligibility requirements, was mailed to existing MOST account owners in January 2012. There is a need in the state of Missouri to assist parents and children with saving for the often rising costs of higher education. This emergency rule is necessary to preserve the compelling governmental interest of providing support to Missouri's children in saving for the costs of higher education. The MOST 529 Matching Grant Program presents a new, limited funding mechanism through the Missouri Higher Education Savings Program to address this problem. The MOST 529 Matching Grant Program provides up to five hundred dollars ($500) in matching funds per year to a qualifying beneficiary. The program is available to beneficiaries whose yearly household income is below seventy-five thousand dollars ($75,000). Seventy-five percent (75%) of Missouri households meet this eligibility requirement. Additionally, the MOST 529 Matching Grant Program is limited to beneficiaries age thirteen (13) and younger at the time their first application is approved, allowing the matching grant funds time to grow before the beneficiary enters college. The MOST 529 Matching Grant Program is funded through a limited grant of five hundred thousand dollars ($500,000) provided by Upromise Investments, program manager of MOST, and funding is available for applications submitted during the 2012 application period. The application period runs from March 1 through June 30 and approved applicants are notified of their approval in August. Funds contributed during the calendar year of a year an application is approved are matched. For example, for an application approved during the 2012 application period, funds contributed to the plan account from January 1, 2012, to December 31, 2012, are matched and the grant funds are provided in January 2013. Applications must be submitted by June 30 to allow for their review and processing in time to notify approved applicants by August. This allows approved applicants time to ensure they contribute as much as possible during the remainder of the calendar year to take advantage of the match and maximize the amount of funds matched to their contributions. The MOST 529 Matching Grant Program funds will be available through the duration of Upromise's contract as program manager of MOST which ends in June 2016. Grant funds may lapse if they are not awarded before this date. Timing is of the essence in beginning the process of awarding the grants to ensure that four (4) years are available to award all available funds assisting as many Missourians save for college as possible within the confines of the MOST 529 Matching Grant Program. Because the MOST 529 Matching Grant Program was approved by the Missouri Higher Education Savings Board in January 2012, there is insufficient time in which to promulgate a rule to allow for the award of grants in time for the 2012 application period. Applications for the MOST 529 Matching Grant Program have already been received by Upromise and materials setting forth the application process have already been sent to MOST account holders. Without an emergency rule, applicants submitting an application this year would not be notified of their award in time to allow them to contribute the full amount which can be matched by the program. As a result, the Missouri Higher Education Savings Program Board finds the rule is necessary to preserve a compelling governmental interest, which requires this emergency action. A proposed rule has been filed with the Joint Committee on Administrative Rules regarding this subject, but will not become effective in time to begin the process of accepting grant applications submitted this year. A proposed rule is published in this issue of the **Missouri Register**. The scope of this emergency rule is limited to the circumstances creating the emergency and complies with the protections extended in the **Missouri** and **United States Constitutions**. The Missouri Higher Education Savings Program Board believes this emergency rule is fair to all interested persons and parties under the circumstances. This emergency rule was filed April 5, 2012, becomes effective April 15, 2012, and expires January 23, 2013.*

(1) Definitions.

(A) Existing Missouri Definitions. The following terms, as used in this rule, are defined in section 166.410, RSMo: Beneficiary, Board, Participation Agreement, and Savings Program. The following terms, as used in this rule, are defined in the Missouri *Code of State Regulations*, 15 CSR 50-4.020(2): Account Owner and Participant.

(B) Additional Definitions. The following definitions shall also apply to the following terms as they are used in this rule:

1. "MOST Matching Grant" means funds granted to an eligible account owner pursuant to the MOST 529 Matching Grant Program;

2. "MOST Matching Grant Application" means the application required to be submitted by an account owner to be considered for a MOST matching grant;

3. "MOST Matching Grant Account" means an account maintained for a beneficiary in which MOST matching grant funds are deposited;

4. "Plan Account" means the account in the savings program established by a participant and maintained for a beneficiary; and

5. "Plan Description" means the MOST—Missouri's 529 College Savings Plan Program Description.

(2) Program Description. The MOST 529 Matching Grant Program is a limited grant program administered by the board as set forth below. The MOST 529 Matching Grant Program is funded with money provided by Upromise Investments, the program manager of the savings program. The funds are limited and, in any given year, may be capped by the board in an amount determined by the board to ensure availability of funds through 2016. The funds will be granted to eligible applicants on a first-come, first-served basis.

(3) MOST Matching Grant Awards.

(A) Applicants who are approved by the board will receive a match rate of one dollar ($1) for every one dollar ($1) contributed in a calendar year, up to a yearly match limit of five hundred dollars ($500).

(B) The lifetime maximum match amount for a beneficiary is two thousand five hundred dollars ($2,500).

(C) Applicants submitting an application during the enrollment period are eligible to receive matching funds for contributions to a plan account made in the same calendar year. For example, applicants who are awarded the MOST matching grant for the 2012 enrollment period will receive matching funds for contributions made to a plan account from January 1 to December 31, 2012.

(D) Applicants who are awarded a MOST matching grant will typically receive the funds between January 1 and January 31 in the year following the approval of the MOST matching grant application and the funds will be invested according to the account owner's current allocation instructions on file for the account owner's plan account.

(4) Eligibility Requirements. To be eligible to receive a MOST matching grant, the applicant must meet the following eligibility guidelines:

(A) The beneficiary must be a Missouri resident;

(B) The beneficiary may not be older than thirteen (13) years of age at the time the first MOST matching grant application is approved;

(C) The household adjusted gross income of the parent(s) or legal guardian(s) of the beneficiary in the year prior to applying for a MOST matching grant may not exceed seventy-four thousand nine hundred and ninety-nine dollars ($74,999);

(D) The applicant must be a Missouri resident who is an account owner who is a parent, legal guardian, or foster parent of the beneficiary; and

(E) Only one (1) MOST matching grant account may be opened for any beneficiary.

(5) Application Requirements.

(A) The applicant must have opened a plan account for the intended beneficiary.

(B) The applicant must enclose with the MOST matching grant application a Missouri state income tax return establishing that the beneficiary's household adjusted gross income falls within the eligibility requirements. If the parent(s) or legal guardian(s) of the beneficiary were not required to file a Missouri state income tax return, they must provide other evidence of residency and household income acceptable to the board.

(C) The beneficiary's Social Security number on the applicant's plan account must match the beneficiary's Social Security number on the matching grant application.

(D) Matching grant applications will be accepted on a first-come, first-served basis.

(E) Applicants must submit a matching grant application during the enrollment period of March 1 to June 30 of each year.

(F) Applicants must reapply for the MOST matching grant each year that it is offered in order to be eligible to receive funds for that year.

AUTHORITY: section 166.415, RSMo Supp. 2011. Emergency rule filed April 5, 2012, effective April 15, 2012, expires Jan. 23, 2013. A proposed rule covering this same material is published in this issue of the ***Missouri Register****.*

Under this heading will appear the text of proposed rules and changes. The notice of proposed rulemaking is required to contain an explanation of any new rule or any change in an existing rule and the reasons therefor. This is set out in the Purpose section with each rule. Also required is a citation to the legal authority to make rules. This appears following the text of the rule, after the word "Authority."

Entirely new rules are printed without any special symbology under the heading of the proposed rule. If an existing rule is to be amended or rescinded, it will have a heading of proposed amendment or proposed rescission. Rules which are proposed to be amended will have new matter printed in boldface type and matter to be deleted placed in brackets.

An important function of the *Missouri Register* is to solicit and encourage public participation in the rulemaking process. The law provides that for every proposed rule, amendment, or rescission there must be a notice that anyone may comment on the proposed action. This comment may take different forms.

If an agency is required by statute to hold a public hearing before making any new rules, then a Notice of Public Hearing will appear following the text of the rule. Hearing dates must be at least thirty (30) days after publication of the notice in the *Missouri Register.* If no hearing is planned or required, the agency must give a Notice to Submit Comments. This allows anyone to file statements in support of or in opposition to the proposed action with the agency within a specified time, no less than thirty (30) days after publication of the notice in the *Missouri Register*.

An agency may hold a public hearing on a rule even though not required by law to hold one. If an agency allows comments to be received following the hearing date, the close of comments date will be used as the beginning day in the ninety (90)-day-count necessary for the filing of the order of rulemaking.

If an agency decides to hold a public hearing after planning not to, it must withdraw the earlier notice and file a new notice of proposed rulemaking and schedule a hearing for a date not less than thirty (30) days from the date of publication of the new notice.

Proposed Amendment Text Reminder:
Boldface text indicates new matter.
[Bracketed text indicates matter being deleted.]

Title 15—ELECTED OFFICIALS
Division 50—Treasurer
Chapter 4—Missouri Higher Education Savings Program

PROPOSED RULE

15 CSR 50-4.030 Missouri MOST 529 Matching Grant Program

PURPOSE: *This rule sets forth the criteria to be used by the Missouri Higher Education Savings Program Board regarding the awarding of matching grants to eligible participants in the Missouri Higher Education Savings Program under the MOST 529 Matching Grant Program and the administration of the MOST 529 Matching Grant Program.*

(1) Definitions.

(A) Existing Missouri Definitions. The following terms, as used in this rule, are defined in section 166.410, RSMo: Beneficiary, Board, Eligible Educational Institution, Participation Agreement, and Savings Program. The following terms, as used in this rule, are defined in the Missouri *Code of State Regulations*, 15 CSR 50-4.020(2): Account Owner, Member of the Family, Non-qualified Withdrawal, Qualified Withdrawal, and Participant.

(B) Additional Definitions. The following definitions shall also apply to the following terms as they are used in this rule:

1. "MOST Matching Grant" means funds granted to an eligible account owner pursuant to the MOST 529 Matching Grant Program;

2. "MOST Matching Grant Account" means an account maintained for a beneficiary in which MOST matching grant funds are deposited;

3."MOST Matching Grant Application" means the application required to be submitted by an account owner to be considered for a MOST matching grant;

4. "Plan Account" means the account in the savings program established by a participant and maintained for a beneficiary; and

5. "Plan Description" means the MOST—Missouri's 529 College Savings Plan Program Description.

(2) Program Description. The MOST 529 Matching Grant Program is a limited grant program administered by the board as set forth below. The MOST 529 Matching Grant Program is funded with money provided by Upromise Investments, the program manager of the savings program. The funds are limited and, in any given year, may be capped by the board in an amount determined by the board to ensure availability of funds through 2016. The funds will be granted to eligible applicants on a first-come, first-served basis.

(3) MOST Matching Grant Awards.

(A) Applicants who are approved by the board will receive a match rate of one dollar ($1) for every one dollar ($1) contributed in a calendar year, up to a yearly match limit of five hundred dollars ($500).

(B) The lifetime maximum match amount for a beneficiary is two thousand five hundred dollars ($2,500).

(C) Applicants submitting an application during the enrollment period are eligible to receive matching funds for contributions to a plan account made in the same calendar year. For example, applicants who are awarded the MOST matching grant for the 2012 enrollment period will receive matching funds for contributions made to a plan account from January 1 to December 31, 2012.

(D) Applicants who are awarded a MOST matching grant will typically receive the funds between January 1 and January 31 in the year following the approval of the MOST matching grant application and the funds will be invested according to the account owner's current allocation instructions on file for the account owner's plan account.

(4) Eligibility Requirements. To be eligible to receive a MOST matching grant, the applicant must meet the following eligibility guidelines:

(A) The beneficiary must be a Missouri resident;

(B) The beneficiary may not be older than thirteen (13) years of age at the time the first MOST matching grant application is approved;

(C) The household adjusted gross income of the parent(s) or legal guardian(s) of the beneficiary in the year prior to applying for a MOST matching grant may not exceed seventy-four thousand nine hundred ninety-nine dollars ($74,999);

(D) The applicant must be a Missouri resident who is an account owner who is a parent, legal guardian, or foster parent of the beneficiary; and

(E) Only one (1) MOST matching grant account may be opened for any beneficiary.

(5) Application Requirements.

(A) The applicant must have opened a plan account for the intended

beneficiary.

(B) The applicant must enclose with the MOST matching grant application a Missouri state income tax return establishing that the beneficiary's household adjusted gross income falls within the eligibility requirements. If the parent(s) or legal guardian(s) of the beneficiary were not required to file a Missouri state income tax return, they must provide other evidence of residency and household income acceptable to the board.

(C) The beneficiary's Social Security number on the applicant's plan account must match the beneficiary's Social Security number on the matching grant application.

(D) Matching grant applications will be accepted on a first-come, first-served basis.

(E) Applicants must submit a matching grant application during the enrollment period of March 1 to June 30 of each year.

(F) Applicants must reapply for the MOST matching grant each year that it is offered in order to be eligible to receive funds for that year.

(6) MOST Matching Grant Accounts.

(A) The MOST matching grant account will be linked to the applicant's plan account and shall be governed by the terms and conditions of the plan description and the related participation agreements and supplements thereto, as amended from time-to-time.

(B) The savings plan shall retain control of the assets in the MOST matching grant account until the account owner submits a request in good order for a qualified withdrawal to an eligible educational institution.

(C) To withdraw funds from a MOST matching grant account, the withdrawal must be a qualified withdrawal to an eligible educational institution.

(D) Under certain circumstances, the MOST matching grant and any earnings made may be fully or partially forfeited and a MOST matching grant account could be closed. These circumstances include:

1. A change in beneficiary when the new beneficiary has previously received a MOST matching grant or is not an eligible member of the family of the former beneficiary;

2. The event of the death of a beneficiary or the disability of the beneficiary which precludes him or her from attending an eligible educational institution, unless the account owner changes the beneficiary to an eligible member of the family of the former beneficiary; and

3. A non-qualified withdrawal or rollover to another state's 529 plan is made from the plan account and the remaining plan account balance falls below the balance of the MOST matching grant account, unless, within eighteen (18) months, the account owner contributes funds to the plan account to prevent forfeiture of that portion of the MOST matching grant account that does not have corresponding funds in the plan account.

(E) For beneficiaries who have a MOST matching grant account, any qualified withdrawals to an eligible educational institution generally will be taken proportionally from the plan account and the related MOST matching grant account at the time the qualified withdrawal is requested to be sent to the eligible educational institution. If the qualified withdrawal amount requested would cause the MOST matching grant account to have a market value under ten dollars ($10), the pro-rated amount of the qualified withdrawal will be adjusted so that the MOST matching grant account is fully liquidated, and the amount taken from the plan account will be reduced accordingly. If the qualified withdrawal amount requested will result in a withdrawal from the MOST matching grant account which is less than ten dollars ($10), the distribution will be adjusted so that the entire amount of withdrawal will be taken from the plan account.

(F) MOST matching grant accounts will not be subject to the ten dollar ($10) annual account fee. MOST matching grant accounts are, however, subject to fees and charges that otherwise apply to a plan account as described in the program description.

AUTHORITY: section 166.415, RSMo Supp. 2011. Emergency rule filed April 5, 2012, effective April 15, 2012, expires Jan. 23, 2013. Original rule filed April 5, 2012.

PUBLIC COST: This proposed rule will not cost state agencies or political subdivisions more than five hundred dollars ($500) in the aggregate.

PRIVATE COST: This proposed rule will not cost private entities more than five hundred dollars ($500) in the aggregate.

NOTICE TO SUBMIT COMMENTS: Anyone may file a statement in support of or in opposition to this proposed rule with the Missouri Higher Education Savings Program Board, c/o Missouri State Treasurer Clint Zweifel, PO Box 210, Jefferson City, MO 65102. To be considered, comments must be received within thirty (30) days after publication of this notice in the ***Missouri Register****. No public hearing is scheduled.*

This section will contain the final text of the rules proposed by agencies. The order of rulemaking is required to contain a citation to the legal authority upon which the order of rulemaking is based; reference to the date and page or pages where the notice of proposed rulemaking was published in the *Missouri Register*; an explanation of any change between the text of the rule as contained in the notice of proposed rulemaking and the text of the rule as finally adopted, together with the reason for any such change; and the full text of any section or subsection of the rule as adopted which has been changed from that contained in the notice of proposed rulemaking. The effective date of the rule shall be not less than thirty (30) days after the date of publication of the revision to the *Code of State Regulations*.

The agency is also required to make a brief summary of the general nature and extent of comments submitted in support of or opposition to the proposed rule and a concise summary of the testimony presented at the hearing, if any, held in connection with the rulemaking, together with a concise summary of the agency's findings with respect to the merits of any such testimony or comments which are opposed in whole or in part to the proposed rule. The ninety (90)-day period during which an agency shall file its order of rulemaking for publication in the *Missouri Register* begins either: 1) after the hearing on the proposed rulemaking is held; or 2) at the end of the time for submission of comments to the agency. During this period, the agency shall file with the secretary of state the order of rulemaking, either putting the proposed rule into effect, with or without further changes, or withdrawing the proposed rule.

Title 9—DEPARTMENT OF MENTAL HEALTH
Division 30—Certification Standards
Chapter 4—Mental Health Programs

ORDER OF RULEMAKING

By the authority vested in the Department of Mental Health under sections 630.655 and 632.050, RSMo 2000, and section 630.050, RSMo Supp. 2011, the department amends a rule as follows:

9 CSR 30-4.030 Certification Standards Definitions **is amended**.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on January 3, 2012 (37 MoReg 15–17). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

Title 9—DEPARTMENT OF MENTAL HEALTH
Division 30—Certification Standards
Chapter 4—Mental Health Programs

ORDER OF RULEMAKING

By the authority vested in the Department of Mental Health under sections 630.655 and 632.050, RSMo 2000, and section 630.050, RSMo Supp. 2011, the department amends a rule as follows:

9 CSR 30-4.034 is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on January 3, 2012 (37 MoReg 17–18). Those sections with changes are reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: The Department of Mental Health received comments from two (2) individuals on the proposed amendment.

COMMENT #1: Allyson Ashley, Chief Operating Officer, and J. Paul Goodwin, Director, both with Burrell Behavioral Health, requested adding to 9 CSR 30-4.034(2)(I) provisionally and fully licensed psychologists to the list of who can provide individual and group professional psychosocial rehabilitation services.
RESPONSE AND EXPLANATION OF CHANGE: Licensed and provisionally licensed psychologists were inadvertently left out of the rule. The staff concurs with adding provisionally and fully licensed psychologists and section (2)(I) will be changed.

COMMENT #2: Allyson Ashley, Chief Operating Officer, with Burrell Behavioral Health, commented that social workers can no longer become provisionally licensed. Social workers can now be "licensed master social worker" prior to becoming a licensed clinical social worker.
RESPONSE AND EXPLANATION OF CHANGE: The social worker statute has changed and provisional licenses are no longer available. The staff concurs and agrees to change the language.

9 CSR 30-4.034 Personnel and Staff Development

(2) Only qualified professionals shall provide community psychiatric rehabilitation (CPR) services. Qualified professionals for each service shall include:

(I) For individual and group professional psychosocial rehabilitation, a professional counselor licensed or provisionally licensed under Missouri law and with specialized training in mental health services; or a clinical social worker licensed or master social worker licensed under Missouri law and with specialized training in mental health services; or a psychologist licensed or provisionally licensed or temporary licensed under Missouri law with specialized training in mental health services;

Title 9—DEPARTMENT OF MENTAL HEALTH
Division 30—Certification Standards
Chapter 4—Mental Health Programs

ORDER OF RULEMAKING

By the authority vested in the Department of Mental Health under section 630.655, RSMo 2000, the department amends a rule as follows:

9 CSR 30-4.035 Client Records of a Community Psychiatric Rehabilitation Program **is amended**.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on January 3, 2012 (37 MoReg 18–19). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

Title 9—DEPARTMENT OF MENTAL HEALTH
Division 30—Certification Standards
Chapter 4—Mental Health Programs

ORDER OF RULEMAKING

By the authority vested in the Department of Mental Health under sections 630.655 and 632.050, RSMo 2000, and section 630.050, RSMo Supp. 2011, the department amends a rule as follows:

9 CSR 30-4.039 Service Provision **is amended**.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on January 3, 2012 (37 MoReg 19). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

Title 9—DEPARTMENT OF MENTAL HEALTH
Division 30—Certification Standards
Chapter 4—Mental Health Programs

ORDER OF RULEMAKING

By the authority vested in the Department of Mental Health under sections 630.655 and 632.050, RSMo 2000, and section 630.050, RSMo Supp. 2011, the department amends a rule as follows:

9 CSR 30-4.042 Admission Criteria **is amended**.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on January 3, 2012 (37 MoReg 20). No changes have been made in the text of the proposed amendment, so it is not reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: No comments were received.

Title 9—DEPARTMENT OF MENTAL HEALTH
Division 30—Certification Standards
Chapter 4—Mental Health Programs

ORDER OF RULEMAKING

By the authority vested in the Department of Mental Health under sections 630.655 and 632.050, RSMo 2000, and section 630.050, RSMo Supp. 2011, the department amends a rule as follows:

9 CSR 30-4.043 is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on January 3, 2012 (37 MoReg 20–22). Those sections with changes are reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: The Department of Mental Health received four (4) comments from two (2) commentors on the proposed amendment.

COMMENT #1: Allyson Ashley, Chief Operating Officer, with Burrell Behavioral Health, commented on 9 CSR 30-4.043(2)(E) that during public meetings, the department stated that in some circumstances additional screenings can be done up to four (4) times per year. She requested clarification.
RESPONSE AND EXPLANATION OF CHANGE: The staff agrees that some individuals may need more frequent metabolic screenings due to the results of initial screenings being of concern. The rule will be changed to allow, but not require, one (1) metabolic screening for no more than one (1) time every ninety (90) days per individual.

COMMENT #2: Allyson Ashley, Chief Operating Officer, with Burrell Behavioral Health, commented on 9 CSR 30-4.043(2)(J) that day treatment changes made a couple of years ago did not carry the requirement of "under the care of a physician." She recommended that the day treatment for youth rule language be changed from "supervision" to "direction" of a physician.
RESPONSE AND EXPLANATION OF CHANGE: The staff concurs and will change the language.

COMMENT #3: Allyson Ashley, Chief Operating Officer, with Burrell Behavioral Health, requested clarification to the rule 9 CSR 30-4.043(2)(J)2. requiring youth aged five (5) or younger to have been expelled from multiple day care or early learning programs before being eligible to receive the more intensive services. She requested additional conditions be allowed to be eligible for the more intensive services such as failing to benefit from early childhood programs.
RESPONSE AND EXPLANATION OF CHANGE: The intent of the proposed amendment is the same as the comments received. The staff agrees to change the language for additional clarification of intent.

COMMENT #4: J. Paul Goodwin, Director, with Burrell Behavioral Health, commented that the proposed language appears to be inconsistent with previous information from a 1996 department memorandum regarding billing community support to support efforts to find and maintain paid employment.
RESPONSE: Current Medicaid authority will allow specified activities to support efforts to find and maintain paid employment. The policy referred to by the commenter has been superseded by different expectations. No changes have been made to this rule as a result of this comment.

9 CSR 30-4.043 Treatment Provided by Community Psychiatric Rehabilitation Programs

(2) The CPR provider shall provide the following community psychiatric rehabilitation services to eligible clients, as prescribed by individualized treatment plans:

(E) Metabolic Syndrome Screening. Clients who are receiving antipsychotic medications shall be screened annually for the following risk factors: obesity, hypertension, hyperlipidemia, and diabetes.

1. Services shall be provided by a registered nurse or a licensed practical nurse. Key service functions include:

A. Taking and recording of vital signs;

B. Conducting lab tests to assess lipid levels and blood glucose levels and/or HgbA1c;

C. Arranging for and coordinating lab tests to assess lipid levels and blood glucose levels and or HgbA1c;

D. Obtaining results of lab tests to assess lipid levels and blood glucose levels and/or HgbA1c; and

E. Recording the results of all required vital signs and lab tests on a form approved by the department.

2. If the lab tests are conducted by a registered nurse or a licensed practical nurse onsite, the provider shall use the Cholestech LDX analyzer or other machine approved by the department. Recently completed lipid panel and blood glucose levels and/or HgbA1c from other health care providers may be obtained. When a client is being regularly followed by a health care provider, the results

of the most recently completed lipid panel and blood glucose levels and/or HgbA1c may be obtained and used to complete the metabolic syndrome screening process. Metabolic syndrome screening shall be limited to no more than one (1) time every ninety (90) days per individual;

(J) Day Treatment for Youth. An intensive array of services provided in a structured, supervised environment designed to reduce symptoms of a psychiatric disorder and maximize functioning. Services are individualized based on the child's needs and include a multidisciplinary approach of care under the direction of a physician. The provision of educational services shall be in compliance with Individuals with Disabilities Education Act 2004 and section 167.126, RSMo. Services shall be provided in the following manner:

1. Hours of operation shall be determined by the individual providers based on capacity, staffing availability, and space requirements. The child shall be in attendance for a minimum of three (3) hours per day, four (4) days per week, and no more than seven (7) hours per day;

2. Eligibility criteria shall include the following:

A. For children six (6) years of age and older, the client must be at risk of inpatient or residential placement as a result of their serious emotional disturbance; and

B. For children five (5) years of age or younger, the child must have one (1) or more of the following:

(I) Has been expelled from multiple day care/early learning programs due to emotional or behavioral dysregulation in relation to serious emotional disturbance or Diagnostic Classification of Mental Health and Developmental Disorders of Infancy and Early Childhood Zero to Three, Revised (DC03R) diagnosis and previous services provided in an early childhood program were unsuccessful;

(II) At risk for an acute psychiatric hospital or residential treatment center placement as a result of their serious emotional disturbance; and/or

(III) Score in the seriously impaired functioning level on the standardized functional tools approved by DMH for this age range; and

3. Key service functions include, but are not limited to the following:

A. Providing integrated treatment combining education, counseling, and family interventions;

B. Promoting active involvement of parents or guardians in the program;

C. Providing consultation and coordination to establish and maintain continuity of care with the child's/family's private service providers;

D. Coordinating and information sharing, consistent with Family Educational Rights and Privacy Act and Health Insurance Portability and Accountability Act, and discharge planning with the school;

E. Requesting screening and assessment reports for special education from the school;

F. Planning with the school how the individualized education needs of each child will be addressed; and

G. Additional core services as prescribed by the department;

Title 9—DEPARTMENT OF MENTAL HEALTH
Division 30—Certification Standards
Chapter 4—Mental Health Programs

ORDER OF RULEMAKING

By the authority vested in the Department of Mental Health under section 630.655, RSMo 2000, the department amends a rule as follows:

9 CSR 30-4.046 is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on January 3, 2012 (37 MoReg 22–23). Those sections with changes are reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: The Department of Mental Health received one (1) comment on the proposed amendment.

COMMENT #1: Allyson Ashley, Chief Operating Officer, with Burrell Behavioral Health, questioned the need in 9 CSR 30-4.046(8) for a minimum of two (2) hours per day of psychosocial rehabilitation for youth. She stated that there are not resources or need for this minimum daily requirement.
RESPONSE AND EXPLANATION OF CHANGE: The staff concurs and has deleted the requirement from the rule requiring a minimum number of hours per day of psychosocial rehabilitation for youth.

9 CSR 30-4.046 Psychosocial Rehabilitation

(8) Psychosocial rehabilitation for youth may be provided as a combination of goal-oriented and rehabilitative services provided in a group setting to improve or maintain the youth's ability to function as independently as possible within the family or community. Services shall be provided according to the individual treatment plan with an emphasis on community integration, independence, and resiliency. Hours of operation shall be determined by the individual providers based on capacity, staffing availability, geography, and space requirements but shall be no more than six (6) hours per day.

Title 10—DEPARTMENT OF NATURAL RESOURCES
Division 20—Clean Water Commission
Chapter 7—Water Quality

ORDER OF RULEMAKING

By the authority vested in the Clean Water Commission under section 644.026, RSMo 2000, the commission amends a rule as follows:

10 CSR 20-7.031 is amended.

A notice of proposed rulemaking containing the text of the proposed amendment was published in the *Missouri Register* on December 1, 2011 (36 MoReg 2521–2686). Those sections with changes are reprinted here. This proposed amendment becomes effective thirty (30) days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENTS: A public hearing on this proposed amendment was held January 4, 2012, and the public comment period ended January 18, 2012. At the public hearing, Watershed Protection Section staff explained the proposed amendment and sixteen (16) comments were made. The department also received fifty-eight (58) written comments from individuals, municipalities, and organizations during the public comment period. Several of the comment letters were signed by multiple individuals or organizations and a few submitted more than one (1) comment letter. Multiple comment letters from the same entity were counted as one (1) comment but addressed separately, where appropriate. The department's responses to these comments have been categorized as general and specific and are located following the sixteen (16) comments provided during the public hearing.

PUBLIC HEARING COMMENTS:

COMMENT #1: Aimee Davenport, Lathrop & Gage, commented on the fiscal notes stating that the department must put forth a comprehensive and diligent effort to identify all affected parties and must ensure that its estimate is reasonable, realistic, and makes good

sense. The fiscal note is not complete, there are costs that have been overlooked and need to be included in this fiscal note.

RESPONSE AND EXPLANATION OF CHANGE: The department believes the fiscal note is accurate and representative of the affected parties and their projected requirements under this rulemaking. As a result of the comment, the department revisited the cost calculations for both the public and private fiscal notes and updated both fiscal notes using updated cost multipliers. However, due to the removal of the proposed classification system and related "fishable/swimmable" use provisions, costs to public and private entities have been reduced considerably since previously-affected facilities will no longer be required to install disinfection. Revisions to the rule that will proceed as a result of action by the Missouri Clean Water Commission (March 9, 2012) are considered no cost as they either implement federal requirements in state regulation (e.g., revised sulfate, chloride, and phenol criteria), provide relief to permitted facilities (e.g., compliance schedule language, revisions to Table K, Use Attainability Analyses), or confirm changes already in rule (Use Attainability Analyses, Mississippi River UAA).

COMMENT #2: Phil Walsack, Missouri Public Utility Alliance (MPUA), commented that the Regulatory Impact Report (RIR) fiscal note does not accurately describe the current cost estimates to be borne by municipal governments when these cities are required to implement the proposed water body classification system. MPUA notified the department that it was not using recent cost estimates from municipalities whose wastewater systems will be affected.

RESPONSE AND EXPLANATION OF CHANGE: As a result of the comment, the department revisited the cost calculations for both the public and private fiscal notes and updated both fiscal notes using updated cost multipliers. The sources of updated costs referenced in the comment were either draft or aggregated costs for an entire wastewater treatment plant upgrade, projected line-item expenditures were sometimes not available. The revised costs found in the updated fiscal notes use national, peer-reviewed cost index information from twenty (20) cities, including Kansas City and St. Louis, Missouri, and should be representative of costs in Missouri. However, due to the removal of the proposed classification system and related "fishable/swimmable" use provisions, costs to public and private entities have been reduced considerably since previously affected facilities will no longer be required to install disinfection. Revisions to the rule that will proceed as a result of action by the Missouri Clean Water Commission (March 9, 2012) are considered no cost as they either implement federal requirements in state regulation (e.g., revised sulfate, chloride, and phenol criteria), provide relief to permitted facilities (e.g., compliance schedule language, revisions to Table K, Use Attainability Analyses), or confirm changes already in rule (Use Attainability Analyses, Mississippi River UAA).

COMMENT #3: Mary West-Calcagno, Jacobs Engineering, commented that a subset of the municipal permittees that operate lagoon systems will be affected by this rule change and receive new requirements for ammonia that are not captured by the fiscal note. The department's ammonia implementation policy was used as a reference.

RESPONSE: The department's Permits and Engineering Section was consulted prior to the initiation of this rulemaking to determine whether ammonia from domestic wastewater treatment systems, including lagoons, would be affected by this rule change. It was determined that due to reasonable potential to exceed ammonia water quality standards from domestic wastewater sources, and limited ammonia degradation, ammonia limits would be required and included in permits for all domestic wastewater discharges regardless of the proposed classification system. As a result, ammonia and toxic pollutants would be permitted at the chronic level and not be affected by the rulemaking. No changes were made as a result of this comment.

COMMENT #4: Roger Walker, REGFORM, gave a short presentation regarding the extent of application of the federal Clean Water Act (CWA) and the intent to protect navigable bodies of water and those with a significant nexus. Mr. Walker commented that based on his review of the proposed amendment it is consistent with Missouri law, fits within Missouri law, and is permissible within the scope of the Clean Water Act. Even so, site-specific considerations and determinations will be needed.

RESPONSE: The department agrees with Mr. Walker. However, the classification and related "fishable/swimmable" use provisions of the rule are withdrawn from the proposed amendment.

COMMENT #5: Trent Stober, Geosyntec Consultants, commented that while the current proposal to designate "fishable/swimmable" uses has been vetted substantially through the stakeholder process, there are still some components that go beyond where reasonable assignment of beneficial uses should extend. An expedited Use Attainability Analyses process is needed to handle these cases. Mr. Stober also expressed concern for human health protection designated use and criteria for all waters, and specific human health criteria for arsenic, manganese, aluminum, and salinity.

RESPONSE AND EXPLANATION OF CHANGE: The department agrees that there may be waters within the proposed framework that may not attain the presumed "fishable/swimmable" use designations and an expedited Use Attainability Analysis (UAA) process is needed. The department considered adding reference to the commission-approved stream classification protocol "Final Guidelines for Water Body Classification, March 2, 2005" to 10 CSR 20-7.031(2)(H) of the proposed amendment to allow assessment discussions of aquatic life use attainment. However, the classification and related "fishable/swimmable" use provisions of the rule are withdrawn from the proposed amendment. Regarding human health protection uses, the criteria for "organism + water" will apply only to those waters with aquatic life protection and drinking water supply uses. As a result of the parameter-specific comments, the department had removed specific human health criteria for arsenic, iron, manganese, and salinity (Total Dissolved Solids, TDS) from the proposed amendment as well as chronic criteria for aluminum. With the removal of the proposed TDS criteria, drinking water supply criteria for chloride and sulfate would remain in rule and have been added back to Table A. However, the criteria for "organism + water," and all other proposed 304(a) criteria revisions, have been withdrawn from the proposed amendment.

COMMENT #6: Steve Meyer, City of Springfield, commented that at least forty-seven (47) of the streams contained within the proposed classification network in the Springfield area are either dry streams or engineered channels. Mr. Meyer expressed concern that forty-seven (47) UAAs would be needed to remove the default presumed uses for these waters and the resources used to conduct those UAAs could be better spent improving appropriately classified streams.

RESPONSE AND EXPLANATION OF CHANGE: The department agrees that an expedited UAA process would be needed to determine those streams that do not attain aquatic life protection and recreational uses. The department looks forward to working with the City of Springfield to develop and implement such a protocol, using the commission-approved stream classification protocol as the basis. This comment supports the earlier proposed change of adding reference to the commission-approved stream classification protocol "Final Guidelines for Water Body Classification, March 2, 2005" to 10 CSR 20-7.031(2)(H). However, the classification and related "fishable/swimmable" use provisions of the rule are withdrawn from the proposed amendment.

COMMENT #7: Robert Brundage, Newman, Comley & Ruth, P.C., commented on the addition of the human health protection use designations for "organism only" and "organism + water" and the increase in the number of standards for this use. Mr. Brundage notes

that the department is not under a deadline to promulgate these new standards and that more time is needed to review them. It is suggested that the department did not provide sufficient opportunity in stakeholder meetings or the rulemaking process to review and make information comments on the new standards. Mr. Brundage recommends the human health protection criteria be deferred to a later rulemaking.
RESPONSE AND EXPLANATION OF CHANGE: As noted in the response to written comments, the department provided sufficient opportunity during the stakeholder and rulemaking process to review and make informed comments on the proposed human health protection criteria. In response to both oral and written testimony, however, the department conducted further review of the criteria for arsenic, iron, manganese, and total dissolved solids (salinity). The result of this review was the removal of human health criteria for these pollutants from the proposed amendment as well as the chronic aquatic life protection criterion for aluminum. These withdrawn criteria will be reviewed and recalculated, as appropriate, during the next water quality standards triennial review. As referenced previously, the criteria for "organism + water," and all other proposed 304(a) criteria revisions, have also been withdrawn from the proposed amendment.

COMMENT #8: Ed Galbraith, Barr Engineering, provided comments regarding the importance of the Use Designation Dataset to be created and maintained by the department. Mr. Galbraith also commented that the proposed amendment lacked a process or definition for how waters would be added to or removed from the Use Designation Dataset and recommended the commission consider the "Final Guidelines for Water Body Classification, March 2, 2005" for this purpose. Mr. Galbraith also recommended the revised table for dissolved oxygen criteria (Table A3) be withdrawn from the proposed amendment as the department, Missouri Department of Conservation, and interested stakeholders were not able to reach resolution on how the revised criteria would be implemented.
RESPONSE AND EXPLANATION OF CHANGE: As a result of Mr. Galbraith's comment and others, the department considered adding reference to the "Final Guidelines for Water Body Classification, March 2, 2005" to 10 CSR 20-7.031(2)(H) of the proposed amendment. Reference to this commission-approved protocol would allow for expedited discussions of aquatic life use attainability and refinement of a process to add or remove waters from the Use Designation Dataset. However, the classification and related "fishable/swimmable" use provisions of the rule are withdrawn from the proposed amendment. As a result of this comment and others, the revised dissolved oxygen criteria found in Table A3 of the proposed amendment have also been removed from the proposed amendment and the existing approved criteria reinstated.

COMMENT #9: Ron Hardecke, farmer, expressed concern regarding the cost of the proposed expansion of "fishable/swimmable" uses to an additional eighty-four thousand (84,000) miles of stream and the department's ability to manage, collect, and analyze data from those streams. Mr. Hardecke also commented on the increased costs to facilities and ratepayers and the lack of estimates of cost for non-point sources of pollution that would be covered by this regulation. The commission should reject the proposal and ask the governor and attorney general to push back on the Environmental Protection Agency (EPA).
RESPONSE AND EXPLANATION OF CHANGE: The department appreciates Mr. Hardecke's concern on how it would manage, collect, and analyze data collected from the additional stream miles. As noted previously in other venues, should funding remain at current levels, the department would adjust data collection and assessment to match departmental and state priorities. Absent increases in funding or resources, statewide assessments of water quality would take longer, be less robust, and focus on priority areas and needs. No costs are expected or detailed for non-point sources of pollution as these sources are addressed using non-regulatory means under the federal Clean Water Act. However, the classification and related "fishable/swimmable" use provisions of the rule are withdrawn from the proposed amendment.

COMMENT #10: Tom Ratermann, Boone County Regional Sewer District, provided information regarding the impact of the proposed regulations on the sewer district. The proposed regulations will result in the closure of about nine (9) facilities, the rate impact of which has not been calculated. Mr. Ratermann asked that the commission consider the impact on rates and the time needed to fully plan and implement improvements. The June 30, 2020, deadline should be removed or left open ended.
RESPONSE AND EXPLANATION OF CHANGE: As a result of this comment and others, the department has removed the June 30, 2020, compliance deadline from the rule at 10 CSR 20-7.031(2)(I) and permits affected by this rule will receive compliance schedules consistent with 10 CSR 20.7.031(11) and federal regulation. Additional language related to the proposed classification and "fishable/swimmable" use provisions of the rule are also withdrawn from the proposed amendment.

COMMENT #11: Liz Hubertz, Washington University/Missouri Coalition for the Environment, commented that the proposed rulemaking will not fully cover those waters that must be protected under the federal Clean Water Act. The proposed rulemaking also undoes the rebuttable presumption of the Clean Water Act and leaves many waters unprotected. Ms. Hubertz also commented that Missouri has had sufficient time to comply with the Clean Water Act and has avoided the cost of compliance over that period of time.
RESPONSE: The department acknowledges the need to apply "fishable/swimmable" default protections. However, the classification and related "fishable/swimmable" use provisions of the rule are withdrawn from the proposed amendment.

COMMENT #12: Lorin Crandall, Missouri Coalition for the Environment, commented that his experience with watersheds and Concentrated Animal Feeding Operations (CAFOs) reveals that many waters would not receive designated uses and criteria protections. This impacts citizens in their ability to litigate under the Clean Water Act. Mr. Crandall also provided information on Kiefer Creek and the high bacteria amounts in the water body. The comment also included information on the uneven density of 1:100,000 scale National Hydrography Dataset (NHD) stream segments in southwest and northwest Missouri.
RESPONSE: The department acknowledges there are density distribution issues with the NHD data layer in the southwest and northwest portions of the state, but will be working with the United States Geological Survey and others to ensure even coverage of applicable water bodies statewide. However, as mentioned previously, the classification and related "fishable/swimmable" use provisions of the rule are withdrawn from the proposed amendment. Regarding Kiefer Creek, as the commenter indicated, the water body has been listed as impaired on the 2010 Missouri 303(d) list. A Total Maximum Daily Load (TMDL) for the bacteria impairment of Kiefer Creek is under development, and the department encourages Missouri Coalition for the Environment's participation in the review and implementation of this important TMDL.

COMMENT #13: Peter Goode, Washington University/Missouri Coalition for the Environment, commented that the current rulemaking does not address the application of Clean Water Act use designations to headwater and ephemeral streams, lakes and ponds not on the 1:100,000 NHD extent, and wetlands. These three (3) types of waters are unique and harbor aquatic life that must be protected under Missouri's regulation. A previous version of the rule that applied "fishable/swimmable" uses to all waters of the state would address these concerns.

RESPONSE: The department acknowledges that the three (3) water body types mentioned in the comment are critical to fully functioning ecosystems within a watershed. However, these waters are not without protection under the current rule. Due to the unique nature of these water bodies, the department will be initiating stakeholder discussions to discuss what protections or designated uses (if any) are necessary for these waters. Any changes as a result of tiered aquatic life use and wetlands discussions will be included in a future triennial review. However, the classification and related "fishable/swimmable" use provisions of the rule are withdrawn from the proposed amendment.

COMMENT #14: Leslie Holloway, Missouri Farm Bureau, commented on the history of the development of the stream classification network and the involvement of stakeholders in the process. The comment also included the sequence of events to address deficiencies in Missouri's water quality standards. The department has taken significant steps toward addressing the deficiencies raised by EPA. The current proposed rulemaking is being forced through the process and goes beyond what is necessary with potential costs ranging from astronomical to unknown. The regulatory impact report and fiscal note underscore the magnitude of the proposal and nowhere in the proposal is an estimate of costs to farmers, ranchers, and other rural landowners. These regulations are not necessary and will result in public and private resources being shifted from real water quality issues and are extremely costly and ineffective.
RESPONSE: The department does not regulate non-point sources of pollution and will continue to encourage voluntary implementation of best management practices as well as offer cost share funding to reduce sources of non-point source pollution. Therefore, no additional costs are anticipated for farmers, ranchers, and other rural landowners under the proposed rule. However, the classification and related "fishable/swimmable" use provisions of the rule are withdrawn from the proposed amendment.

COMMENT #15: Jeff Theerman, Metropolitan St. Louis Sewer District (MSD), commented that MSD supports the department's decision to retain secondary contact recreation and associated bacteria criteria for the twenty-eight and six-tenths (28.6) mile segment of the Mississippi River near St. Louis from North Riverfront Park to the confluence of the Meramec River. MSD provided a large amount of supporting data, documentation, and information and appreciates the department's efforts on the issue.
RESPONSE: The department appreciates the responsiveness of MSD and its consultant to provide supplementary data, documentation, and information with which to support the current proposal. No changes were made as a result of this comment.

COMMENT #16: John Carter, citizen, commented that the proposed framework for applying presumed "fishable/swimmable" uses includes water bodies on his property that do not have permanent flow or permanent pools. The department or EPA should have to prove that there are uses and that there is actually something to be protected. The Clean Water Act has done a lot of good, and the department and EPA have done good things by requiring treatment plants but things are reaching the point of requiring too stringent limits. We need to step back and look at what has actually happened out there and be real proud of what has been accomplished.
RESPONSE: The Clean Water Act and implementing regulations at 40 CFR 131 provide for a rebuttable presumption of "fishable/swimmable" uses for the nation's waters. The department and EPA are not required to rebut the presumption of "fishable/swimmable" prior to application of these uses. However, the Clean Water Act and state regulation provide the necessary framework for rebutting the presumption of "fishable/swimmable" through the use attainability analysis process. The department appreciates the comment and Mr. Carter's dedication and involvement in the water quality standards development process. However, the classification and related "fishable/swimmable" use provisions of the rule are withdrawn from the proposed amendment.

GENERAL WRITTEN COMMENTS:

COMMENT #1: R. Burkhardt; T. Bush; J. Carter; C. & B. Crutchfield; M. Fick; J. Geske; C. & J. Graeler; R. Hoelscher; P. Martin; D. Mertz; D. Miller; B. Moll; J. Pitts; O. Smith; R. Sprock; W. Stemme; B. Stolte; D. Whiteside; Kuehner Farms; Caldwell Co. Farm Bureau; Callaway Co. Farm Bureau; Dunklin Co. Farm Bureau; Gasconade Co. Farm Bureau; Greene Co. Farm Bureau; Lincoln Co. Farm Bureau; Madison Co. Farm Bureau; Mercer Co. Farm Bureau; Reynolds Co. Farm Bureau; St. Francois Co. Farm Bureau; Missouri Chamber of Commerce; Missouri Pork Association; City of Independence; City of Springfield; and Missouri Coalition for the Environment commented that application of Clean Water Act Section 101(a) "fishable/swimmable" uses to the 1:100,000 National Hydrography Dataset (NHD) spatial extent is arbitrary, excessive, unnecessary, or will be extremely costly.
RESPONSE AND EXPLANATION OF CHANGE: The department received a number of comments from citizens and county farm bureaus that were strongly opposed to the proposed application of presumed Clean Water Act Section 101(a) uses to more Missouri waters. The commenters felt the "reclassification of Missouri streams" under the proposed amendment would arbitrarily set new water quality standards for many small streams and subject many small communities and rural citizens to increased regulatory costs and restrictions. The commenters also felt the current proposal is "excessive, unnecessary and will be extremely costly to everyone" and urged the department to resume working on the matter in a fair and open manner.

The proposed application of presumed Clean Water Act Section 101(a) "fishable/swimmable" uses to more Missouri waters was in response to an August 8, 2000, letter from the United States Environmental Protection Agency (EPA) to the department. This letter contained a determination that Missouri's water quality standards regulation (10 CSR 20-7.031) did not fully reflect the national goal of "water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water," wherever attainable. To satisfy this determination, the department proposed to apply "fishable/swimmable" uses to rivers and streams spatially represented by the 1:100,000 scale National Hydrography Dataset (NHD) extent. Additionally, the department proposed "fishable/swimmable" presumed uses for all perennial rivers and streams and intermittent streams with permanent pools, regardless of spatial extent. To ensure complete protection of surface waters in the state, the department also proposed application of presumed Section 101(a)(2) uses to all lakes and reservoirs that spatially intersect or are connected to the flowlines of the rivers and streams identified above. However, the classification and related "fishable/swimmable" use provisions of the rule are withdrawn from the proposed amendment.

Biological data collected by the department and Missouri Department of Conservation indicate that presumed "fishable/swimmable" uses are attainable for the spatial extent and type of waters proposed to receive them. In this sense, the proposed spatial extent of presumed uses is supported by peer-reviewed data and information of attainability. Other spatial extents may or may not have data available that can be used to determine attainability of presumed uses. Waters in the proposed amendment that do not attain "fishable/swimmable" uses could have those uses removed, where they are not an existing use, using the Use Attainability Analysis (UAA) provisions in federal regulation at 40 CFR 131.10(g) and in the proposed amendment.

As required by *Missouri Revised Statutes* (RSMo) section 640.015, the department drafted and provided for public comment a Regulatory Impact Report (RIR) that estimated the environmental and economic costs and benefits of the proposed amendment. The

department used the most current available peer-reviewed and published data to develop the estimates of environmental and economic costs and benefits. Comments on the RIR and the department's responses can be found on the Water Protection Program's "Rules in Development" website: http://dnr.mo.gov/env/wpp/rules/wpp-rule-dev.htm. The RIR estimates costs for upgraded wastewater treatment facilities and provides a listing of facilities that may be affected by the proposed amendment. Rate payers and those in charge of wastewater treatment facility upgrades as a result of this rulemaking will be most directly impacted. No regulations are being proposed that would result in increased economic costs or burden to private citizens or landowners not associated with these facilities. Moreover, the application of presumed uses to more Missouri waters under this rulemaking will not result in additional regulatory burden or permit requirements for agricultural non-point sources. The department believes the economic costs of the proposed rulemaking are appropriate and necessary to meet the minimum regulatory requirements prescribed by the federal CWA.

The department notes that the process for selecting the proposed regulatory framework for applying Clean Water Act Section 101(a) "fishable/swimmable" uses was open and inclusive of all viewpoints interested in the rulemaking. The department agrees that "good policy comes with an open deliberative process" and believes the current rulemaking provided ample opportunity for collaborative input and deliberation on the proposed amendment. The department looks forward to continued engagement with interested citizens and stakeholders as the proposed amendment is adopted and implemented. However, the classification and related "fishable/swimmable" use provisions of the rule are withdrawn from the proposed amendment.

COMMENT #2: Barr Engineering; REGFORM; City of Independence; City of Springfield; United States Environmental Protection Agency; and Missouri Coalition for the Environment questioned the extent and/or applicability of the 1:100,000 National Hydrography Dataset (NHD) in satisfying the requirements of the Clean Water Act Section 101(a) and the "rebuttable presumption." Some comments also indicated the application of presumed uses remains unclear.

RESPONSE AND EXPLANATION OF CHANGE: Section 101(a)(2) of the federal Clean Water Act (CWA) establishes the national goal of "water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water," wherever attainable. This section is often referred to as the "fishable/swimmable" goal of the CWA. EPA's regulation at 40 CFR 131 interprets and implements these provisions by requiring that state water quality standards provide for a default use designation of "fishable/swimmable," unless those uses have been shown to be unattainable through a use attainability analysis. In short, waters of the United States are presumed to have a default use designation of "fishable/swimmable" as a rebuttable presumption. The proposed rule language at 10 CSR 20-7.031(2) was considered to establish and implement default "fishable/swimmable" uses in Missouri's water quality standards.

It was the department's intention to apply presumed "fishable/swimmable" uses beyond those already contained within Tables G and H of 10 CSR 20-7.031, having received notice from EPA in its letter of September 8, 2000, that the existing extent was insufficient. To resolve this issue, the department proposed to apply default "fishable/swimmable" uses to rivers and streams spatially represented by the 1:100,000 scale National Hydrography Dataset (NHD) extent. Additionally, the department proposed "fishable/swimmable" presumed uses for all perennial rivers and streams and intermittent streams with permanent pools, regardless of spatial extent. Biological stream survey data collected by the department and Missouri Department of Conservation indicate that presumed "fishable/swimmable" uses cannot be satisfactorily rebutted for these two (2) types of waters. To ensure complete protection of surface waters in the state, the department also proposed application of presumed Section 101(a)(2) uses to all lakes and reservoirs that spatially intersect or are connected to the flowlines of the rivers and streams identified above. The department believed this approach is consistent with the goals and objectives of the federal CWA in applying default "fishable/swimmable" uses. A comment by the EPA indicates these actions would "move the state closer to the Clean Water Act's requirement to assign default uses." In response to a related EPA comment on the Use Designation Dataset, the dataset contained refined locational information (i.e., latitude and longitude and segment length) and uses for newly designated waters in 10 CSR 20-7.031(2)(A) as well as those currently contained in Tables G and H of the rule. Additionally, the use designation dataset language was revised to indicate that the department will both "create and maintain" the spatial dataset.

It is important to note that Section 101(a)(2) of the federal CWA presumes that waters of the United States meet "fishable/swimmable" uses. No demonstration, use attainability analysis, "on-ramp," or other procedure is required to apply presumed use designations to Missouri waters under the rebuttable presumption. Having such a procedure would undermine and run counter to the "fishable/swimmable" goal set forth by the United States Congress in 1972. However, the department recognizes that use attainability analysis frameworks need to be available to the department and stakeholders. To this end, the department included reference to both stream classification and recreational UAA guidance approved by the commission in the proposed amendment. These guidance form the basis for current and future discussions on use attainability for newly designated waters subject to this rulemaking. However, as stated previously, the classification and related "fishable/swimmable" use provisions of the rule are withdrawn from the proposed amendment.

COMMENT #3: Little Blue Valley Sewer District; Metropolitan St. Louis Sewer District; City of Springfield; City Utilities of Springfield; City of St. Joseph; Missouri Pork Association; and United States Environmental Protection Agency commented that a new water classification framework has been proposed without approved implementation procedures.

RESPONSE AND EXPLANATION OF CHANGE: The department received comments from municipalities, sewer districts, and other interested parties requesting that approved implementation procedures be developed and adopted prior to implementation of the proposed use designation framework. Implementation procedures would be used to evaluate the removal or addition of waters to the Use Designation Dataset created by this rulemaking and maintained by the department. In essence, the comments request that approved aquatic life and recreational use attainability analysis procedures be developed and made available prior to implementation of the proposed amendment.

It is the department's preference that application of presumed "fishable/swimmable" uses to more Missouri waters be conducted at the state, rather than federal, level. Federal regulation at 40 CFR 131.10(k) states that, "A State is not required to conduct a use attainability analysis under this regulation whenever designating uses which include those specified in section 101(a)(2) of the Act." As a result, the department would not be conducting individual UAAs prior to implementation of the proposed amendment. However, the department recognizes that UAA procedures are an accepted and necessary means to ensure Missouri waters receive appropriate protection under federal and state clean water law. The department's current recreational use attainability analysis protocol, and any future use attainability analysis protocols developed by the state, may be used to provide evidence for both the removal of a use, as well as the addition of a use. UAAs intended for recreation in and on the water shall be performed in accordance with methods and procedures as found in "Missouri Recreational Use Attainability Analyses: Water Body Survey and Assessment Protocol, December 19, 2007," which has been incorporated into rule by reference. UAAs intended for aquatic life protection shall be performed in accordance with methods and

procedures approved by the Missouri Clean Water Commission (commission). To date, no formal aquatic life protection UAA survey and assessment protocol has been approved by the commission.

The department remains committed to working with interested stakeholders to develop an aquatic life protection UAA survey and assessment protocol. In the interim, the commission-approved stream classification protocol "Final Guidelines for Water Body Classification, March 2, 2005" may be used to begin assessment discussions of aquatic life use attainment. To facilitate these discussions, the department considered adding reference to the approved stream classification protocol to 10 CSR 20-7.031(2)(H) of the proposed amendment. Future aquatic life protection UAA survey and assessment protocols developed through the stakeholder process would have replaced and superseded this protocol once available and approved by the commission. The department appreciates the additional stream network data and information provided by municipalities, sewer districts, and interested stakeholders in their comments and encourages continued participation in the process. However, the classification and related "fishable/swimmable" use provisions of the rule and reference to the "Final Guidelines for Water Body Classification, March 2, 2005," are withdrawn from the proposed rule.

COMMENT #4: Barr Engineering; City of Independence; City of Springfield; Newman, Comley & Ruth P.C. on behalf of the Doe Run Company; and John Carter commented that the proposed revisions to 10 CSR 20-7.031 subsection (2)(D), the Use Designation Dataset, and subsection (1)(Z), "waters of the state," result in several water bodies inaccurately receiving presumed "fishable/swimmable" uses.

RESPONSE AND EXPLANATION OF CHANGE: A few comments provided locational data and information regarding waters or structures found on the 1:100K National Hydrography Dataset spatial extent that do not meet the proposed definition of "waters of the state" found in the current rulemaking. If accurate, these waters should not receive presumed "fishable/swimmable" uses or be included in the "Use Designation Dataset." The department appreciates this additional data and information and will consider it when compiling the Use Designation Dataset for publication. Waters retained in the Use Designation Dataset may be investigated in the future using applicable UAA protocols for the removal of aquatic life and/or recreational uses. However, the classification and related "fishable/swimmable" use provisions of the rule are withdrawn from the proposed amendment.

COMMENT #5: Barr Engineering and Missouri Public Utility Alliance commented that the fiscal notes were inadequate and the department should withdraw the fiscal note for the proposed rulemaking and base a new analysis on the 604(b) Statewide Wastewater Assessment Report, preliminary engineering reports and facility plans, and cost estimates contained in the current project list for participation in the State's Clean Water Revolving Fund.

RESPONSE AND EXPLANATION OF CHANGE: The Regulatory Impact Report (RIR) process outlined at section 640.015, RSMo, requires that the department develop a best estimate of costs based on available peer-reviewed and published data. The cost estimates and analyses presented in the RIR and subsequent public and private fiscal notes were the best available at the time of their development. Discussions with Financial Assistance Center staff indicated the cost estimates were reasonable and consistent with what staff had seen for state revolving fund projects. These discussions took place during normal business activities regarding the RIR and fiscal notes and no memoranda or documents were created. Future confirmations of cost estimates will generate such documents that will be included in the administrative record. Regarding the public and private fiscal notes in particular, the department has reviewed the most recent construction cost information available and updated the fiscal notes accordingly.

The public notice period for the RIR took place from June 12, 2011, until August 12, 2011, and the proposed amendment and fiscal notes were filed with the Missouri Secretary of State on October 31, 2011. The 604(b) Statewide Wastewater Assessment Report was a draft product until submitted to the department in September 2011. Past stakeholder discussions regarding rulemaking and permit decisions have conveyed a strong message that draft guidance and information should not be used as the basis for department decisions. Because the 604(b) Statewide Wastewater Assessment Report was draft until just before filing the proposed amendment, the department was not able to properly review, verify, and disaggregate the information found in this report. For similar reasons, preliminary engineering reports and State Revolving Fund (SRF) cost estimates are considered draft until such time as the wastewater treatment plant is bid and all costs related to the system have been estimated. Even then, many facilities are bid as lump sum and actual line-item costs for disinfection are not available until much later in the process. The department recognizes, however, that needs surveys and engineering report costs can be used to compare estimated with actual costs for select facilities following completion of wastewater treatment plant upgrades.

As noted in the response to comments for the Regulatory Impact Report (RIR), it is not the intention of the RIR to calculate each individual facility's potential costs as the circumstances, physical properties, and regulated populations vary greatly. Rather, the RIR requires a best estimate of the costs and impacts of the proposed amendment. The department documents estimates of the potential costs of the proposed amendment with the realization that actual costs may in fact be higher or lower for any specific individual facility. For both the RIR and public and private fiscal notes, cost estimates did not take into account other legislative and regulatory measures that may defer or provide relief from new requirements. Affordability legislation and considerations, extension of compliance schedules, variances, and social/economic use attainability analyses are all means at the department and permitted facilities' disposal to reduce the potential burden of system upgrades.

As a result of the comment, the department revisited the cost calculations for both the public and private fiscal notes and updated both fiscal notes using updated cost multipliers. The revised costs found in the updated fiscal notes use national, peer-reviewed cost index information and should be representative of costs in Missouri. However, due to the removal of the proposed classification system and related "fishable/swimmable" use provisions, costs to public and private entities have been reduced considerably since previously-affected facilities will no longer be required to install disinfection. Revisions to the rule that will proceed as a result of decisions by the Missouri Clean Water Commission (March 9, 2012) are considered no cost as they either implement federal requirements in state regulation (e.g., revised sulfate, chloride, and phenol criteria), provide relief to permitted facilities (e.g., compliance schedule language, revisions to Table K, Use Attainability Analyses), or confirm changes already in rule (Use Attainability Analyses, Mississippi River UAA).

COMMENT #6: Barr Engineering; Little Blue Valley Sewer District; Metropolitan St. Louis Sewer District; City of Springfield; City Utilities of Springfield; and City of St. Joseph commented that the department did not support the proposed amendment with a Regulatory Impact Report (RIR) that captures all readily estimated costs.

RESPONSE AND EXPLANATION OF CHANGE: A number of comments revisited perceived technical shortcomings in the development of the RIR that supports the proposed rulemaking. The comments also point out that the RIR and subsequent fiscal notes did not use "recent and representative" data from the Missouri Public Utilities Alliance (MPUA). In addition, the comments point out that the RIR did not estimate or consider potential impacts to regulated entities and the state due to potential impairment decisions and resulting Total Maximum Daily Load (TMDL) studies resulting from

adoption of new water quality criteria.

Regarding the latter concern, the proposed revisions to federal Section 304(a) criteria are in response to changes in EPA guidance establishing appropriate pollutant thresholds that prevent toxic effects to aquatic life and human health. Because Missouri is adopting federal criteria for these pollutants, environmental and economic costs and benefits are determined by actions at the federal level and not the state. Chapter 536, RSMo, does not require a cost and benefit analysis when federal requirements are adopted without modification. Additionally, it is difficult to estimate the impacts due to potential impairment decisions and TMDLs when such determinations are hypothetical and absent the public participation process for impairment listing, delisting, and TMDL decisions. Regardless, such determinations are not necessary when ensuring state standards are equivalent to, and as protective as, federal standards. However, the federal 304(a) criteria revisions have been withdrawn from the proposed amendment. Revisions to sulfate, chloride, and phenol criteria will proceed as directed by the Missouri Clean Water Commission at its March 9, 2012, meeting.

For responses to comments regarding the use of MPUA and other data for cost estimates, please see the response to general comment #5. As noted previously, the department has revised the public and private fiscal notes and will revisit the estimated costs found in the fiscal notes as required by state statute following implementation of the proposed rule. As also noted previously, affordability considerations and compliance schedules will be used to ensure the proposed rulemaking is implemented in a reasonable manner.

COMMENT #7: Associated Industries of Missouri; Barr Engineering; Missouri Chamber of Commerce; REGFORM; Little Blue Valley Sewer District; Metropolitan St. Louis Sewer District; City of Springfield; City Utilities of Springfield; City of St. Joseph; and United States Environmental Protection Agency commented that proposed Section 304(a) criteria found in Table A (now A1, A2, and A3) are not appropriate and should be deferred to a later rulemaking. Additionally, insufficient time was provided to review these changes.

RESPONSE AND EXPLANATION OF CHANGE: A number of organizations provided comments on the proposed changes to Table A (now Tables A1, A2, and A3) of 10 CSR 20-7.031. Section 303(c) of the federal Clean Water Act requires that the state from time-to-time (but at least once every three (3) years) review its applicable water quality standards and, as appropriate, modify and adopt new or revised standards. As part of Missouri's triennial review process, the department reviews and incorporates applicable numeric water quality criteria developed by the EPA under Section 304(a) of the CWA. The proposed revisions to federal Section 304(a) criteria in Table A are in response to changes in EPA guidance establishing appropriate pollutant thresholds that prevent toxic effects to aquatic life and human health. Some of these changes necessitated the expansion of the "Human Health Protection – Fish Consumption" designated use and column in Table A to human health protection designated use columns for consumption of aquatic organisms only, as well as consumption of aquatic organisms plus water from the same source. Revisions of the human health protection designated use and criteria are consistent with EPA guidance "*Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health (2000)*" EPA-822-B-00-004. These changes are required by the federal CWA to ensure that state water quality standards are consistent and comparable to federal standards. Similar constructs toward protection of consumption of aquatic organisms and consumption of aquatic organisms plus water can be found in other state water quality standards nationally and EPA Region 7. The department notes the comment from EPA supporting the incorporation of revised Section 304(a) criteria with this rulemaking.

The need for revisions to individual Section 304(a) criteria was initially brought to the department's attention in 2007 by EPA Region 7. The department provided stakeholders with recommendations for needed revisions through the Water Protection Forum in March 2011. These recommendations were subsequently provided as draft tables for comment during the Regulatory Impact Report and proposed amendment stages of the current rulemaking. The proposed amendment revisions used the Missouri Secretary of State's notation for displaying additions and deletions to rules using bold text and bracketed italicized text, respectively. The department believes ample opportunity has been provided during this rulemaking to gather informed, meaningful input from stakeholders on the proposed Table A criteria changes. Because Missouri is adopting federal criteria for Section 304(a) pollutants, environmental and economic costs and benefits are determined by actions at the federal level and not the state. Chapter 536, RSMo, does not require a cost and benefit analysis when federal requirements are adopted without modification.

As noted above, the proposed changes that update and incorporate federal Section 304(a) criteria in Missouri's Water Quality Standards were presented to stakeholders in March 2011. The proposed amendments to 10 CSR 20-7.031 were published in the *Missouri Register* on December 1, 2011, which opened a forty-five- (45-) day (plus) public notice and comment period on the proposed amendment. The department believes a forty-five- (45-) day public notice period is sufficient time to review and provide informed comments on the draft amendment. Stakeholders have had ample opportunity to review drafts of the proposed amendment and accompanying tables prior to publication in the *Missouri Register* through the Regulatory Impact Report and Water Protection Forum processes. The department has also accommodated multiple meetings with stakeholders during the rule drafting and public notice/comment period. Extensions to public notice and comment periods may be granted provided the department can accommodate the extension and still meet its obligations under federal and state clean water law. Unfortunately, the department could not accommodate an extension to the public notice/comment period in this case. Several of the proposed amendments are time-critical revisions and any delay in establishing and filing the proposed amendment would limit the state's ability to draft and implement water quality standards on its own terms. The department appreciates the comment and all stakeholder interest and participation in the water quality standards rulemaking process.

However, as mentioned previously, the federal 304(a) criteria revisions have been withdrawn from the proposed amendment. Revisions to sulfate, chloride, and phenol criteria will proceed as directed by the Missouri Clean Water Commission at its March 9, 2012, meeting.

COMMENT #8: Little Blue Valley Sewer District; Metropolitan St. Louis Sewer District; REGFORM; City of Springfield; City Utilities of Springfield; City of St. Joseph; and United States Environmental Protection Agency commented that several proposed criteria are discretionary, not well supported, not required by the Clean Water Act, and may lead to unnecessary determinations of impairment (organoleptic pollutants, arsenic, aluminum, and trichloromethane).

RESPONSE AND EXPLANATION OF CHANGE: The department received comments from municipalities, sewer districts, and other interested parties regarding promulgation of new numeric water quality criteria based upon Section 304(a) recommendations from the EPA. As noted in the response to general comment #7, the department routinely reviews and adopts numeric water quality criteria during Missouri's water quality standards triennial review process to ensure state standards are equivalent to federal standards. EPA's movement from a solely fish consumption basis for human health protection to one that is inclusive of all potential exposure pathways (i.e., organism (fish) consumption plus consumption of water) necessitated the updates to Table A of Missouri's water quality standards. The department notes, however, that many comments are correct in that federal guidance states that the use of "organism + water" criteria are appropriate for only those waters used for both fishing and drinking water supply. Therefore, the department affirms that the "organism + water" criteria would apply only to those waters used

and designated for both fishing (Aquatic Life Protection) and drinking water supply uses. The definition for "Human Health Protection" at 10 CSR 20-7.031(1)(F)3. already includes language to this effect where it defines human health protection for consumption of aquatic organisms and water "from a single source." The department notes the comment from EPA supporting the incorporation of revised Section 304(a) criteria with this rulemaking. The department also notes the comment from EPA regarding assumptions used to derive the Section 304(a) human health criteria found in this rulemaking. No changes were made as a result of EPA's comment regarding criteria derivation assumptions at this time. However, review of the human health protection criteria during future water quality standards reviews may lead to changes in this provision.

Many of the comments also expressed concern that some of the new criteria are organoleptic (i.e., taste and odor) and considered discretionary in application, non-enforceable, and have no toxicological basis. In particular, many comments requested the removal of newly proposed organoleptic criteria for manganese, total dissolved solids, and iron. Manganese, total dissolved solids, and iron are non-priority pollutants that are naturally occurring in the environment and may exceed the proposed criteria due to natural background levels. Federal regulations for non-priority pollutants at 40 CFR 131.11 require that states adopt criteria for these pollutants based on a sound scientific rationale that covers sufficient parameters to protect designated uses and both numeric and narrative criteria may be applied to meet these requirements. Upon further review, the department does not believe the proposed criterion represent the level needed to protect human health and may lead to unnecessary impairment listings due to naturally occurring conditions. Additionally, Missouri's general (narrative) criteria at 10 CSR 20-7.031(4) are sufficient to protect designated uses from the potential human health impacts related to the consumption of iron and manganese in drinking water and fish. For these reasons, the department is withdrawing the proposed "organism only" and "organism + water" criteria for manganese and iron. The department is also withdrawing the proposed total dissolved solids criterion for drinking water supply for similar reasons. The department notes, however, that the aquatic life criterion for iron will remain in effect for protection of aquatic life uses. Also due to a comment from Barr Engineering, the department will no longer be proposing an aquatic life protection value for alkalinity.

A number of comments expressed concern that the proposed human health protection criteria for arsenic are not well supported and may lead to unnecessary 303(d) listings. To support these assertions, comments provided statistics regarding the compliance rate of United States Geological Survey (USGS) gaging stations with the proposed criteria. The department cautions the use of such analyses to determine compliance with proposed water quality standards as such analyses have not been considered or incorporated into department- and commission-approved methodologies for assessing water quality. However, the department notes that further evaluation of the proposed arsenic criteria may be prudent prior to promulgation in Missouri's water quality standards. The proposed national criteria include assumptions that reflect consumption of saltwater oysters that are not endemic to Missouri streams. The proposed human health protection criteria for arsenic must reflect species and assumptions that reflect conditions in Missouri waters. To this end, the department is withdrawing the proposed human health criteria for arsenic and will include revised criteria in a subsequent triennial review. These revised criteria will reflect fish consumption criteria for freshwater (rather than saltwater) shellfish and finfish, and include assumptions (e.g., bioaccumulation factors) based upon available peer-reviewed literature and data for freshwater systems.

A number of comments also expressed concern that the proposed aquatic life protection chronic criterion for aluminum are not well supported and may lead to unnecessary 303(d) listings. While the proposed chronic criterion for aluminum was established under Section 304(a), further research by the department has determined that the chronic criterion may not be appropriate at this time. Questions on the scientific validity of the studies used to develop the chronic criterion (i.e., brook trout and striped bass studies) and the potential misapplication of criteria development protocols in preparing the criterion give the department pause. For these reasons, the department is withdrawing the proposed aquatic life protection chronic criterion for aluminum. The department notes, however, that the aquatic life acute criterion for aluminum will remain in effect for protection of aquatic life uses.

One (1) comment (REGFORM) requested that recent draft EPA criteria for trichloromethane (chloroform) be used in lieu of the current Section 304(a) criteria for this pollutant. While the department acknowledges that the draft guidance for this pollutant is available, it is hesitant to incorporate draft criteria into Missouri's water quality standards. Once the proposed draft criteria become final, the department may promulgate those criteria (or other scientifically-supported criteria) into rule.

One (1) comment (EPA) requested the total recoverable criterion for selenium be displayed as a dissolved criterion to obtain consistency with 10 CSR 20-7.031(5)(B)2.A.(II). The total criterion for selenium (five (5) micrograms per liter) was converted to an equivalent dissolved concentration (four and six-tenths (4.6) μg/L) as recommended in the comment.

However, as mentioned previously, the federal 304(a) criteria revisions have been withdrawn from the proposed amendment. Revisions to sulfate, chloride, and phenol criteria will proceed as directed by the Missouri Clean Water Commission at its March 9, 2012, meeting.

COMMENT #9: Barr Engineering, Boone County Regional Sewer District, and United States Environmental Protection Agency commented that the deadline for compliance with new permit requirements under the proposed "fishable/swimmable" rule at 10 CSR 20-7.031(2)(I) are in conflict with revised schedule of compliance provisions found at 10 CSR 20-7.031(11).

RESPONSE AND EXPLANATION OF CHANGE: In the proposed rule, a June 30, 2020, deadline was given for permitted facilities affected by the expansion of "fishable/swimmable" designated uses to come into compliance with new permit requirements. This deadline is similar to those established by previous rulemakings when compliance schedules longer than three (3) years were required to ensure compliance with the regulation. However, the current rulemaking removes the long-standing three- (3-) year compliance schedule provision in rule at 10 CSR 20-7.031(11) and replaces it with language referencing the federal compliance schedule regulation at 40 CFR Part 122.47. The addition of the June 30, 2020, deadline to the proposed rule limits the flexibility of the department to develop schedules of compliance that encompass and consider all regulatory requirements for affected permitted facilities, including affordability. As a result, the June 30, 2020, deadline will be removed from 10 CSR 20-7.031(2)(I) and permits affected by this rule will receive compliance schedules consistent with 10 CSR 20.7.031(11) and federal regulation. However, as mentioned previously, the classification and related "fishable/swimmable" use provisions of the rule are withdrawn from the proposed amendment.

The department notes the comment from EPA directing attention to 40 CFR 122.47 and the May 10, 2007, memorandum from James Hanlon of EPA regarding compliance schedules. The department is aware of the implementing regulations and guidance and affirms these sources will form the basis for granting compliance schedules in Missouri. Notwithstanding other provisions of the Clean Water Act (i.e., variances), compliance schedules will be applicable to facilities that are required to comply with new or revised standards established after 1977. Details and durations of compliance schedules will be site-specific and engineered to ensure water quality standards are achieved as soon as possible.

COMMENT #10: Newman, Comley & Ruth P.C.; REGFORM; and

United States Environmental Protection Agency commented on the variance authorizing provisions contained in the proposed rule at 10 CSR 20-7.031(12). Newman, Comley & Ruth and REGFORM believe the variance provisions are limiting and subject entities to the same tests for performance of a Use Attainability Analysis (UAA). The United States Environmental Protection Agency believes the UAA provisions are necessary and fundamental for inclusion in variance authorizing provisions and made other recommendations for language changes.

RESPONSE AND EXPLANATION OF CHANGE: The department included variance authorizing provisions in the proposed amendment to ensure that variances result in improvements in water quality, gain efficiencies in the permitting and water quality standards administration process, and add general clarification of applicability to the rule. The proposed variance authorizing provisions provide permitted facilities the opportunity to seek a temporary modification to the designated use and associated water quality criteria that would otherwise be applicable without the variance. The variance is granted for a specific pollutant and beneficial use and does not otherwise modify the underlying water quality standard for the receiving water.

Federal regulation at 40 CFR 131.13 states that "States may, at their discretion, include in their State standards, policies generally affecting their application and implementation, such as mixing zones, low flows and variances." The regulation goes on to state that "Such policies are subject to EPA review and approval." Past EPA guidance and memoranda have elaborated on or clarified the role of variances in administration of state water quality standards. Such clarification included providing information regarding what factors must be considered when granting variances (e.g., Johnson 1985). While it is true that variance procedures involve the same substantive and procedural requirements as removing a designated use, variances are discharger and pollutant specific, time-limited, and do not modify the underlying use. EPA has been clear in its expectations that variances from water quality standards can be approved, provided the state demonstrates that meeting the standard is unattainable based on one (1) or more of the factors outlined in 40 CFR 131.10(g).

The variance authorizing provisions must ensure that existing uses of a water body are maintained and protected. Existing uses are uses that are actually attained in a surface water body or water body segment on or after November 28, 1975, whether or not they are included in the water quality standards. Examples of degradation of existing uses of waters that cannot be allowed by variance include:

1. An action that would result in the deterioration of the existing aquatic community, such as a shift from a community of predominantly pollutant-sensitive species to pollutant-tolerant species or a loss of species diversity;

2. An action that would result in a loss of a resident or indigenous species whose presence is necessary to sustain commercial or recreational activities; or

3. An action that would preclude continued use of a surface water body or water body segment for a public water supply or for recreational or commercial fishing, swimming, paddling, or boating.

In short, variances allow for site-specific and time-limited consideration of use attainability. The proposed variance authorizing provisions would play a key role in providing permitted facilities sufficient time to comply with new requirements now and in the future. In cases where affordability becomes an issue, a variance would be used instead of designated use removal as the water quality standard could ultimately be attained given enough time or resources. By maintaining the standard rather than changing it, the department and commission would ensure that progress is made to improve water quality and attain the standard. With variances, operating permits could be written such that reasonable progress is made toward attaining applicable water quality goals without violating federal and state clean water law that require compliance with water quality standards. These provisions would ultimately prove to be mutually beneficial for both the department and interested permitted entities. However, the variance authorizing provisions have been withdrawn from the proposed amendment.

COMMENT #11: Barr Engineering and United States Environmental Protection Agency both made recommendations and suggestions for edits, revisions, or clarification in the proposed rule language.

RESPONSE: A number of comments requested edits, revisions, or clarification of the proposed rule language. Because the requested changes could have had unintended consequences or required reconvening stakeholders, the suggested and recommended changes were not made to the proposed amendment. The department intends to commence a rulemaking immediately following this current effort and the recommended edits, revisions, or clarification may be considered and discussed during this subsequent review.

Such recommendations pertain, but are not limited to, Class E (ephemeral) waters, variance definition and language, downstream use language, "maximum" chronic toxicity language, and limits for radionuclides and other criteria. No changes were made as a result of these comments; however, these recommendations and suggestions for edits may be taken up during a future water quality standards triennial review.

SPECIFIC WRITTEN COMMENTS:

COMMENT #1: The City of Poplar Bluff Municipal Utilities and City Cable, Geosyntec Consultants, and Lathrop and Gage submitted comments in support of site-specific dissolved oxygen criteria found in Table K of 10 CSR 20-7.031 for Pike Creek and Main Ditch, Butler County. The Missouri Department of Conservation provided comments of concern regarding the site-specific criteria.

RESPONSE: The site-specific dissolved oxygen daily average criterion of four and seven-tenths (4.7) mg/L and daily minimum criterion of two and six-tenths (2.6) mg/L for Pike Creek and Main Ditch were developed using a reference condition approach and represent the highest attainable criteria for these water bodies. The department appreciates the support of the City of Poplar Bluff and its representatives on this matter and looks forward to working with the city to implement the criteria once approved. No changes were made as a result of this comment. As a result of action by the Missouri Clean Water Commission at its March 9, 2012, meeting, these revisions to Table K of 10 CSR 20-7.031 will proceed.

The department notes the comment provided by the Missouri Department of Conservation expressing concern that the proposed criteria do not take into account early life stages of fish. The department acknowledges that while early life stages were not included as a component of the criteria as proposed, the development methodology of the criteria based upon regional reference streams should ensure the proposed criteria are protective of these sensitive life stages. Future analyses of site-specific dissolved oxygen for these streams will include a more thorough analysis of early life stages. No changes were made as a result of this comment.

COMMENT #2: Newman, Comley & Ruth P.C., on behalf of Missouri Agribusiness Association (Mo-Ag), commented in support of revised sulfate and chloride criteria for the protection of aquatic life designated use.

RESPONSE: The department appreciates the support of Mo-Ag on this matter and is pleased to satisfy the petition submitted to the commission requesting these revisions. The commission adopted the proposed revisions at its March 9, 2012, meeting, and the revisions now appear in Table A of 10 CSR 20-7.031.

COMMENT #3: Ameren Services; Barr Engineering; and REGFORM commented that the expanded dissolved oxygen criteria in Table A3 of the proposed amendment require additional discussion and development. The Missouri Department of Conservation commented in support of a framework for determination of early life stages.

RESPONSE AND EXPLANATION OF CHANGE: The department included expanded dissolved oxygen criteria in Table A3 of the proposed amendment to address stakeholder and commission concerns that the current dissolved oxygen minimum criterion found in rule is overprotective or unattainable in some Missouri streams. A number of external stakeholders representing municipal, industrial, and agricultural interests have expressed concern regarding the expansion of dissolved oxygen criteria in Table A3 of the proposed amendment. In particular, stakeholders have concerns that the details for making determinations of early life stages present (or absent) have not been thoroughly developed or vetted for comment. The department acknowledges that while details for making early life stages determinations have been discussed, they have not been fully developed or discussed such that stakeholder consensus has been obtained. For these reasons, the department will defer implementation of the proposed expanded dissolved oxygen criteria until such time that early life stage determination procedures have been developed. The department notes, however, that the lack of expanded dissolved oxygen criteria may result in additional impairment listings for waters where the existing dissolved oxygen criterion may not be appropriate. Therefore, revisions to dissolved oxygen criteria in Table A3 have been withdrawn from the proposed amendment.

Regarding early life stages in general, the department notes and appreciates the support and involvement of the Missouri Department of Conservation in developing a framework for determination of early life stages. The department looks forward to working with MDC and other interested stakeholders to resolve this issue.

COMMENT #4: Newman, Comley & Ruth, P.C. commented that the department should withdraw the proposed addition of paragraph 10 CSR 20-7.031(5)(C)4. that applies bacteria criteria to losing streams.

RESPONSE AND EXPLANATION OF CHANGE: As noted in the comment, the current Water Quality Standards state that the *E. coli* count shall not exceed one hundred twenty-six (126) per one hundred milliliters (100 mL) of water at any time in losing streams. The framework for this particular standard dates back to the Water Quality Standards published August 1, 1984. Those standards stated "*the fecal coliform count shall not exceed a geometric mean of two hundred (200) colonies per one hundred milliliters (100 ml) during the recreational season from April 1 to October 31 in waters designated for whole-body-contact recreation or* ***at any time in losing streams***" (bold emphasis added). The intent of the current triennial review was not to change or revise this provision. Rather, the changes found in the "Bacteria" section of the rule, including those found at 10 CSR 20-7.031(5)(C), reformat the effective provisions to increase their clarity and to accommodate changes to the existing Table A.

Any change in the magnitude, duration, or frequency of the bacteria provision for losing streams would require an examination of economic and environmental costs and benefits. Because the Regulatory Impact Report did not estimate the economic and environmental costs and benefits of removing the instantaneous maximum bacteria criterion for losing streams, the request to remove this provision from rule cannot be considered at this time. However, the department agrees that the bacteria criterion for losing streams merits further review and intends to review and revise (if applicable) this provision during a subsequent water quality standards triennial review. As a result, the revisions to 10 CSR 20-7.031(5)(C)4. have been withdrawn from the proposed amendment.

COMMENT #5: The Metropolitan St. Louis Sewer District (MSD) provided a letter of support for the department's decision to retain the Secondary Contact Recreation (SCR) use designation for the twenty-eight and six-tenths (28.6) mile segment of the Mississippi River from North Riverfront Park to the Meramec. The United States Environmental Protection Agency requests all available data and information in order to review the decision.

RESPONSE: The department's decision to retain SCR for this segment of the Mississippi River was the result of discussions and review of additional data and information supplied by MSD in the report, "Supplemental Information for the Mississippi River Whole Body Contact Recreational Use Attainability Analysis." The department appreciates the comment and cooperation of MSD as the data and information were being reviewed. No changes were made as a result of this comment. The department will affirm the designation of Secondary Contact Recreation for this segment in Table H of the proposed amendment.

In regard to the United States Environmental Protection Agency request for all available data and information, the department intends to provide documentation containing this information in support of the decision upon submittal of the water quality standards package. No changes were made as a result of this comment.

COMMENT #6: The Metropolitan St. Louis Sewer District (MSD) commented that the department should remove the whole body contact recreation (swimming) designated use from the one and six-tenths (1.6) mile segment of Black Creek in St. Louis.

RESPONSE: Available data and information for the water body indicate the whole body contact recreation use cannot be satisfactorily rebutted for this water body based on depth measurements greater than one (1) meter taken during a 2007 stream survey. While the measurements in question were taken before the current "Missouri Recreational Use Attainability Analyses: Water Body Survey and Assessment Protocol, December 19, 2007," the measurements were obtained using standard and defensible methods.

The situation for Black Creek is similar to a number of other waters addressed during the 2009 water quality standards triennial review (*Missouri Register*, September 15, 2009, Vol. 34, No. 18, page 2007) and the department's decision with respect to Black Creek is consistent with this earlier rulemaking. The department was able to verify the method used to collect the maximum depth measurement (i.e., measured, not visual observation) and the data were collected during appropriate conditions (i.e., during base flow conditions). To corroborate this information, the 2008 UAA data were again reviewed by the department. Recorded depths of up to nine-tenths meters (0.9 m) during the 2008 UAA were measured during a very dry period, with only ninety-eight hundreds inches (0.98 in) of measurable precipitation in the thirty-one (31) days preceding the UAA. Such conditions make rebutting the one (1) meter measurement obtained a year earlier difficult. For these reasons, the department retained the whole body contact recreation use for Black Creek for this rulemaking. No changes were made as a result of this comment.

COMMENT #7: The Missouri Department of Conservation, United States Environmental Protection Agency, and Missouri Coalition for the Environment commented that the department should recognize and protect the unique diversity of warm, cool, and cold water fisheries, communities and biota found in the state and define those designated uses. Barr Engineering commented that the department should develop tiered aquatic life framework before promulgating the proposed rulemaking and that the exceptional aquatic community use designation not be assigned.

RESPONSE AND EXPLANATION OF CHANGE: The department appreciates the refinements in rule language provided by MDC that would recognize the diversity of fishery and aquatic communities in the state. Because the department intends on convening a wider stakeholder group on tiered aquatic life use designations in the near future, the refinements provided by MDC will be added to that administrative record. The department appreciates and welcomes the participation of MDC and other interested stakeholders in this extremely important workgroup. The department acknowledges and appreciates MDC's support for the new exceptional aquatic community designated use found in the proposed amendment. However, due to the need for additional discussion regarding tiered aquatic life uses, the exceptional aquatic community designated use has been

withdrawn from the proposed amendment. The department will take up this designation during a subsequent triennial review as part of Missouri's tiered aquatic life use designation effort.

Because tiered aquatic life use designations will involve categorizing and defining aquatic assemblages, the department is deferring refinement or revision of the warm, cool, and cold water fishery definitions (and that of recreationally important fish species) to a future water quality standards triennial review when these topics will be addressed in more detail. No changes were made as a result of this comment.

COMMENT #8: Kingsford Manufacturing Company submitted a comment requesting the department amend the Table J (Losing Streams) entry for Dry Fork Creek, Maries County.
RESPONSE: Available information, data, and GIS coverages provided by Kingsford and the department's Division of Geology and Land Survey (DGLS) indicate a change in the legal description and mileage of the losing segment of Dry Fork Creek is appropriate. These changes were approved as a result of action by the Missouri Clean Water Commission at its March 9, 2012, meeting; however, as Table J was not included in the proposed amendment, changes to this table cannot be made at this time. These concerns will again be considered in a future review of this rule.

CLEAN WATER COMMISSION COMMENT: At the March 9, 2012, meeting of the Missouri Clean Water Commission, the Commission moved and approved adoption of six (6) proposed amendments to 10 CSR 20-7.031 as published in the December 1, 2011, *Missouri Register*. All other proposed amendments as published in the December 1, 2011, *Missouri Register* were not adopted. The six (6) proposed amendments adopted by the commission are as follows:

1. Proposed amendment to the sulfate and chloride criteria found in 10 CSR 20-7.031(5)(L) and Table A2 (36 MoReg 2528 and 2563–2564, Dec. 1, 2011); and

2. Proposed amendments to the phenol criteria found in Table A1 (36 MoReg 2551 and 2560, Dec. 1, 2011); and

3. Proposed dissolved oxygen criteria for Main Ditch found in Table K (36 MoReg 2671, Dec. 1, 2011); and

4. Proposed amendment to the Schedule of Compliance section found in 10 CSR 20-7.031(11) (36 MoReg 2531, Dec. 1, 2011); and

5. Proposed amendment to the losing stream designation for Dry Fork in Table J. Please see MDNR's Response to Specific Written Comment #8 (37 MoReg 747). This change will be addressed in a future amendment; and

6. Proposed amendment to the use designations for streams criteria found in Table H (36 MoReg 2580–2669, Dec. 1, 2011).

RESPONSE AND EXPLANATION OF CHANGE: The department has incorporated five (5) of the proposed amendments adopted by the commission in the order of rulemaking. Due to all other proposed amendments being withdrawn, the five (5) proposed amendments adopted by the commission can now be found at the following locations due to section renumbering:

1. Proposed sulfate and chloride criteria can be found at 10 CSR 20-7.031(4)(L) and Table A; and

2. Proposed acute and chronic phenol criteria can be found in Table A; and

3. Proposed dissolved oxygen criteria for Main Ditch and Pike Creek can be found in Table K; and

4. Proposed schedule of compliance language can be found at 10 CSR 20-7.031(10); and

5. Proposed use designations for streams can be found in Table H.

With the exception of the six (6) amendments adopted by the Missouri Clean Water Commission at its March 9, 2012, meeting, the remaining portions of the proposed amendment were not adopted in order to allow for more discussion. Five (5) of the proposed amendments adopted by the commission can be found in the following rule text and Tables A, H, and K. The changes adopted by the commission in Table J will be addressed in a future amendment.

The amendment also includes revisions to sulfate, chloride, and phenol criteria in Table A, new site-specific dissolved oxygen criteria for Main Ditch and Pike Creek in Table K, and stream use designation changes for Whole Body Contact Recreation (WBC) and Secondary Contact Recreation (SCR) in Table H.

10 CSR 20-7.031 Water Quality Standards

PURPOSE: This rule identifies beneficial uses of waters of the state, criteria to protect those uses, and defines the antidegradation policy. It is developed in response to the Missouri Clean Water Law and the federal Clean Water Act, Section 303(c)(1) and (2), which requires that state water quality standards be reviewed at least once every three (3) years. These revisions are pursuant to the national goal of protection of fish, shellfish, and wildlife and recreation in and on the water as outlined in Section 101(a)(2) of the Act.

(1) Definitions.

(A) Acute toxicity—Conditions producing adverse effects or lethality on aquatic life following short-term exposure. The acute criteria in Tables A and B are maximum concentrations which protect against acutely toxic conditions. Acute toxicity is also indicated by exceedence of whole-effluent toxicity (WET) test conditions of paragraph (3)(I)2. For substances not listed in Table A or B, three-tenths (0.3) of the median lethal concentration, or the no observed acute effect concentration for representative species, may be used to determine absence of acute toxicity.

(C) Beneficial or designated uses. Those uses specified in paragraphs 1.–15. of this subsection for each water body segment whether or not they are attained. Beneficial or designated uses paragraphs (1)(C)1.–11. of classified waters are identified in Tables G and H. Beneficial or designated uses paragraphs (1)(C)12.–15. of classified waters must be determined on a site-by-site basis and are therefore not listed in Tables G and H.

1. Irrigation—Application of water to cropland or directly to plants that may be used for human or livestock consumption. Occasional supplemental irrigation, rather than continuous irrigation, is assumed.

2. Livestock and wildlife watering—Maintenance of conditions to support health in livestock and wildlife.

3. Cold-water fishery—Waters in which naturally-occurring water quality and habitat conditions allow the maintenance of a naturally-reproducing or stocked trout fishery and other naturally-reproducing populations of recreationally-important fish species.

4. Cool-water fishery—Waters in which naturally-occurring water quality and habitat conditions allow the maintenance of a sensitive, high-quality sport fishery (including smallmouth bass and rock bass) and other naturally-reproducing populations of recreationally-important fish species.

5. Protection of aquatic life (General warm-water fishery)—Waters in which naturally-occurring water quality and habitat conditions allow the maintenance of a wide variety of warm-water biota, including naturally-reproducing populations of recreationally-important fish species. This includes all Ozark Class C and P streams, all streams with 7Q10 low flows of more than one-tenth cubic foot per second (0.1 cfs), all P1 streams, and all classified lakes. However, individual Ozark Class C streams may be determined to be limited warm-water fisheries on the basis of limited habitat, losing-stream classification, land-use characteristics, or faunal studies which demonstrate a lack of recreationally-important fish species.

6. Protection of aquatic life (Limited warm-water fishery)—Waters in which natural water quality and/or habitat conditions prevent the maintenance of naturally-reproducing populations of recreationally-important fish species. This includes non-Ozark Class C streams and non-Ozark Class P streams with 7Q10 low flows equal

to or less than one-tenth cubic foot per second (0.1 cfs) and Ozark Class C streams with the characteristics outlined in paragraph (1)(C)5.

7. Human health protection (Fish consumption)—Criteria to protect this use are based on the assumption of an average amount of fish consumed on a long-term basis. Protection of this use includes compliance with Food and Drug Administration (FDA) limits for fish tissue, maximum water concentrations corresponding to the 10^{-6} cancer risk level, and other human health fish consumption criteria.

8. Whole body contact recreation—Activities in which there is direct human contact with the raw surface water to the point of complete body submergence. The raw water may be ingested accidentally and certain sensitive body organs, such as the eyes, ears, and the nose, will be exposed to the water. Although the water may be ingested accidentally, it is not intended to be used as a potable supply unless acceptable treatment is applied. Water so designated is intended to be used for swimming, water skiing, or skin diving. All waters in Tables G and H of this rule are presumed to support whole body contact recreation unless a Use Attainability Analysis (UAA) has shown that the use is unattainable. The use designation for whole body contact recreation may be removed or modified through a UAA for only those waters where whole body contact is not an existing use. Assignment of this use does not grant an individual the right to trespass when a land is not open to and accessible by the public through law or written permission of the landowner.

A. Category A—This category applies to those water segments that have been established by the property owner as public swimming areas allowing full and free access by the public for swimming purposes and waters with existing whole body contact recreational use(s). Examples of this category include, but are not limited to, public swimming beaches and property where whole body contact recreational activity is open to and accessible by the public through law or written permission of the landowner.

B. Category B—This category applies to waters designated for whole body contact recreation not contained within category A.

9. Secondary contact recreation—Uses include fishing, wading, commercial and recreational boating, any limited contact incidental to shoreline activities, and activities in which users do not swim or float in the water. These recreational activities may result in contact with the water that is either incidental or accidental and the probability of ingesting appreciable quantities of water is minimal. Assignment of this use does not grant an individual the right to trespass when a land is not open to and accessible by the public through law or written permission of the landowner.

10. Drinking water supply—Maintenance of a raw water supply which will yield potable water after treatment by public water treatment facilities.

11. Industrial process water and industrial cooling water—Water to support various industrial uses; since quality needs will vary by industry, no specific criteria are set in these standards.

12. Storm- and flood-water storage and attenuation—Waters which serve as overflow and storage areas during flood or storm events slowly release water to downstream areas, thus lowering flood peaks and associated damage to life and property.

13. Habitat for resident and migratory wildlife species, including rare and endangered species—Waters that provide essential breeding, nesting, feeding, and predator escape habitats for wildlife including waterfowl, birds, mammals, fish, amphibians, and reptiles.

14. Recreational, cultural, educational, scientific, and natural aesthetic values and uses—Waters that serve as recreational sites for fishing, hunting, and observing wildlife; waters of historic or archaeological significance; waters which provide great diversity for nature observation, educational opportunities, and scientific study.

15. Hydrologic cycle maintenance—Waters hydrologically connected to rivers and streams serve to maintain flow conditions during periods of drought. Waters that are connected hydrologically to the groundwater system recharge groundwater supplies and assume an important local or regional role in maintaining groundwater levels.

(D) Biocriteria—Numeric values or narrative expressions that describe the reference biological integrity of aquatic communities inhabiting waters that have been designated for aquatic-life protection.

(E) Chronic toxicity—Conditions producing adverse effects on aquatic life or wildlife following long-term exposure but having no readily observable effect over a short time period. Chronic numeric criteria in Tables A and B are maximum concentrations which protect against chronic toxicity; these values shall be considered four-(4-) day averages. Chronic toxicity is also indicated by exceedence of WET test conditions of subsection (4)(Q). For substances not listed in Table A or B, commonly used endpoints such as the no-observed effect concentration or inhibition concentration of representative species may be used to demonstrate absence of toxicity.

(F) Classified waters—All waters listed as L1, L2, and L3 in Table G and P, P1, and C in Table H. During normal flow periods, some rivers back water into tributaries which are not otherwise classified. These permanent backwater areas are considered to have the same classification as the water body into which the tributary flows.

1. Class L1—Lakes used primarily for public drinking water supply.

2. Class L2—Major reservoirs.

3. Class L3—Other lakes which are waters of the state. These include both public and private lakes. For effluent regulation purposes, publicly-owned L3 lakes are those for which a substantial portion of the surrounding lands are publicly owned or managed.

4. Class P—Streams that maintain permanent flow even in drought periods.

5. Class P1—Standing-water reaches of Class P streams.

6. Class C—Streams that may cease flow in dry periods but maintain permanent pools which support aquatic life.

7. Class W—Wetlands that are waters of the state that meet the criteria in the *Corps of Engineers Wetlands Delineation Manual* (January 1987), and subsequent federal revisions. Class W waters do not include wetlands that are artificially created on dry land and maintained for the treatment of mine drainage, stormwater control, drainage associated with road construction, or industrial, municipal, or agricultural waste. Class W determination on any specific site shall be consistent with federal law.

(K) *Escherichia coli* (*E. coli*)—A type of fecal coliform bacteria found in the intestines of animals and humans. The presence of *E. coli* in water is a strong indication of recent sewage or animal waste contamination. Sewage may contain many types of disease-causing organisms (pathogens).

(Q) Outstanding national resource waters—Waters which have outstanding national recreational and ecological significance. These waters shall receive special protection against any degradation in quality. Congressionally-designated rivers, including those in the Ozark national scenic riverways and the wild and scenic rivers system, are so designated (see Table D).

(R) Outstanding state resource waters—High quality waters with a significant aesthetic, recreational, or scientific value which are specifically designated as such by the Clean Water Commission (see Table E).

(S) Ozark streams—Streams lying within the Ozark faunal region as described in the *Aquatic Community Classification System for Missouri*, Missouri Department of Conservation, 1989.

(T) Reference lakes or reservoirs—Lakes or reservoirs determined by Missouri Department of Natural Resources to be the best available representatives of ecoregion waters in a natural condition with respect to habitat, water quality, biological integrity and diversity, watershed land use, and riparian conditions.

(U) Reference stream reaches—Stream reaches determined by the department to be the best available representatives of ecoregion waters in a natural condition, with respect to habitat, water quality, biological integrity and diversity, watershed land use, and riparian conditions.

(V) Regulated-flow streams—A stream that derives a majority of

its flow from an impounded area with a flow-regulating device.

(W) Use Attainability Analysis (UAA)—A structured scientific assessment of the factors affecting the attainment of the use which may include physical, chemical, biological, and economic factors as described in 40 CFR 131.10(g).

(X) Water effect ratio—Appropriate measure of the toxicity of a material obtained in a site water divided by the same measure of the toxicity of the same material obtained simultaneously in a laboratory dilution water.

(Y) Water hardness—The total concentration of calcium and magnesium ions expressed as calcium carbonate. For purposes of this rule, hardness will be determined by the lower quartile (twenty-fifth percentile) value of a representative number of samples from the water body in question or from a similar water body at the appropriate stream flow conditions.

(Z) Water quality criteria—Chemical, physical, and biological properties of water that are necessary to protect beneficial water uses.

(AA) Waters of the state—All rivers, streams, lakes, and other bodies of surface and subsurface water lying within or forming a part of the boundaries of the state which are not entirely confined and located completely upon lands owned, leased, or otherwise controlled by a single person or by two (2) or more persons jointly or as tenants in common and includes waters of the United States lying within the state.

(BB) Wetlands—Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. This definition is consistent with both the United States Army Corps of Engineers 33 CFR 328.3(b) and the United States Environmental Protection Agency 40 CFR 232.2(r).

(CC) Whole effluent toxicity tests—A toxicity test conducted under specified laboratory conditions on specific indicator organisms. To estimate chronic and acute toxicity of the effluent in its receiving stream, the effluent may be diluted to simulate the computed percent effluent at the edge of the mixing zone or zone of initial dilution.

(DD) Zone of initial dilution—A small area of initial mixing below an effluent outfall beyond which acute toxicity criteria must be met.

(EE) Zone of passage—A continuous water route necessary to allow passage of organisms with no acutely toxic effects produced on their populations.

(FF) Other definitions as set forth in the Missouri Clean Water Law and 10 CSR 20-2.010 shall apply to terms used in this rule.

(2) Antidegradation. The antidegradation policy shall provide three (3) levels of protection.

(A) Tier One. Public health, existing in-stream water uses, and a level of water quality necessary to protect existing uses shall be maintained and protected.

(B) Tier Two. For all waters of the state, if existing water quality is better than applicable water quality criteria established in these rules, that existing quality shall be fully maintained and protected. Water quality may be lowered only if the state finds, after full satisfaction of the intergovernmental coordination and public participation requirements, that the lowered water quality is necessary to allow important economic and social development in the geographical area in which the waters are located. In allowing the lowering of water quality, the state shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control before allowing any lowering of water quality. This provision allows a proposed new or modified point or nonpoint source of pollution to result in limited lowering of water quality provided that—

1. The source does not violate any of the general criteria set forth in section (3) of this rule, or any of the criteria for protection of beneficial uses set forth in section (4) of this rule;

2. The source meets all applicable technological effluent limitations and minimum standards of design for point sources or minimum pollution control practices for nonpoint sources; and

3. The lowering of water quality, in the judgment of the department, is necessary for the accommodation of important economic and social development in the geographical vicinity of the discharge. In making a preliminary determination based on socioeconomic development considerations, the department may consider the potential for regional increases in utility rates, taxation levels, or recoverable costs associated with the production of goods or services that may result from the imposition of a strict no-degradation policy. Consideration may also be given to the possible indirect effects of a policy on per capita income and the level of employment in the geographical vicinity of the proposed pollution source. Any preliminary decision by the department to allow a limited lowering of water quality will be stated as such in a public notice issued pursuant to 10 CSR 20-6.010. Pursuant to that provision, a public hearing will be held in the geographical vicinity of the proposed pollution source, if the department determines there is significant public interest in and need for a hearing.

(C) Tier Three. There shall be no lowered water quality in outstanding national resource waters or outstanding state resource waters, as designated in Tables D and E.

(D) The three (3) levels of protection provided by the antidegradation policy in subsections (A) through (C) of this section shall be implemented according to procedures hereby incorporated by reference and known as the "Missouri Antidegradation Rule and Implementation Procedure, April 20, 2007, Revised May 7, 2008." No later amendments or additions are included. This document shall be made available to anyone upon written request to the Department of Natural Resources, Water Protection Program, Water Pollution Control Branch, PO Box 176, Jefferson City, MO 65102-0176.

(3) General Criteria. The following water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:

(A) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly, or harmful bottom deposits or prevent full maintenance of beneficial uses;

(B) Waters shall be free from oil, scum, and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;

(C) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor, or prevent full maintenance of beneficial uses;

(D) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal, or aquatic life;

(E) There shall be no significant human health hazard from incidental contact with the water;

(F) There shall be no acute toxicity to livestock or wildlife watering;

(G) Waters shall be free from physical, chemical, or hydrologic changes that would impair the natural biological community;

(H) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment, and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to sections 260.200–260.247, RSMo;

(I) Waters in mixing zones and unclassified waters which support aquatic life on an intermittent basis shall be subject to the following requirements:

1. The acute toxicity criteria of Tables A and B and the requirements of subsection (4)(B); and

2. The following whole effluent toxicity conditions must be satisfied:

A. Single dilution method. The percent effluent at the edge of the zone of initial dilution will be computed and toxicity tests performed at this percent effluent. These tests must show statistically-insignificant mortality on the most sensitive of at least two (2) representative, diverse species; and

B. Multiple dilution method. An LC_{50} will be derived from a series of test dilutions. The computed percent effluent at the edge of the zone of initial dilution must be less than three-tenths (0.3) of the LC_{50} for the most sensitive of at least two (2) representative, diverse species.

(4) Specific Criteria. The specific criteria shall apply to classified waters. Protection of drinking water supply is limited to surface waters designated for raw drinking water supply and aquifers. Protection of whole body contact recreation is limited to classified waters designated for that use.

(A) The maximum chronic toxicity criteria in Tables A and B shall apply to waters designated for the indicated uses given in Tables G and H. All Table A and B criteria are chronic toxicity criteria, except those specifically identified as acute criteria. Water contaminants shall not cause or contribute to concentrations in excess of these values. Table A values listed as health advisory levels shall be used in establishing discharge permit limits and management strategies until additional data becomes available to support alternative criteria, or other standards are established. However, exceptions may be granted in the following cases:

1. Permanent flow streams when the stream flow is less than 7Q10;

2. Regulated flow streams if the flow is less than the minimum release flow agreed upon by the regulating agencies;

3. For the natural and unavoidable chemical and physical changes that occur in the hypolimnion of lakes. Streams below impoundments shall meet applicable specific criteria;

4. For mixing zones.

A. The mixing zone shall be exempted from the chronic criteria requirements of this section for those components of waste that are rendered nontoxic by dilution, dissipation, or rapid chemical transformation. Acute numeric criteria of Tables A and B and whole effluent acute toxicity requirements of subsection (3)(I) must be met at all times within the mixing zone, except within the zone of initial dilution. The following criteria do not apply to thermal mixing zones. Criteria for thermal mixing zones are listed in paragraph (4)(D)6.

B. The maximum size of mixing zones and zone of initial dilution will be determined as follows:

(I) Streams with 7Q10 low flows of less than one-tenth cubic foot per second (0.1 cfs);

(a) Mixing zone—not allowed; and

(b) Zone of initial dilution—not allowed;

(II) Streams with 7Q10 low flow of one-tenth to twenty cubic feet per second (0.1–20 cfs)—

(a) Mixing zone—one-quarter (1/4) of the stream width, cross-sectional area, or volume of flow; length one-quarter (1/4) mile. If the discharger can document that rapid and complete mixing of the effluent occurs in the receiving stream, the mixing zone may be up to one-half (1/2) of the stream width, cross-sectional area, or volume of flow; and

(b) Zone of initial dilution—one-tenth (0.1) of the mixing zone width, cross-sectional area, or volume of flow;

(III) Streams with 7Q10 low flow of greater than twenty cubic feet per second (20 cfs)—

(a) Mixing zone—one-quarter (1/4) of stream width, cross-sectional area, or volume of flow; length of one-quarter (1/4) mile; and

(b) Zone of initial dilution—one-tenth (0.1) of the mixing zone width, cross-sectional area, or volume of flow and no more than ten (10) times the effluent design flow volume unless the use of diffusers or specific mixing zone studies can justify more dilution; and

(IV) Lakes.

(a) Mixing zone—not to exceed one-quarter (1/4) of the lake width at the discharge point or one hundred feet (100') from the discharge point, whichever is less.

(b) Zone of initial dilution—not allowed.

C. A mixing zone shall not overlap another mixing zone in a manner that the maintenance of aquatic life in the body of water in the overlapping area would be further adversely affected.

D. Other factors that may prohibit or further limit the size and location of mixing zones are the size of the river, the volume of discharge, the stream bank configuration, the mixing velocities, other hydrologic or physiographic characteristics, and the designated uses of the water, including type of aquatic life supported, potential effects on mouths of tributary streams, and proximity to water supply intakes.

E. Zones of passage must be provided wherever mixing zones are allowed.

F. Mixing zone and zone of initial dilution size limits will normally be based on streams at the 7Q10 low flow. However, this percent of stream size limits also applies at higher stream flows and discharge limitations may be based on higher stream flows if discharge volume or quality may be adjusted to correlate with stream flow; and

5. For wetlands. Water quality needs will vary depending on the individual characteristics of wetlands. Application of numeric criteria will depend on the specific aquatic life, wildlife, and vegetation requirements.

A. Specific criteria for wetlands shall be developed using scientific procedures including, but not limited to, those procedures described in the U.S. Environmental Protection Agency's *Water Quality Standards Handbook*, Second Edition, August 1994.

B. Specific criteria shall protect all life stages of species associated with wetlands and prevent acute and chronic toxicity in all parts of the wetland.

C. Specific criteria shall include both chronic and acute concentrations to better reflect the different tolerances to the inherent variability between concentrations and toxicological characteristics of a condition.

D. Specific criteria shall be clearly identified as maximum "not to be exceeded" or average values, and if an average, the averaging period and the minimum number of samples. The conditions, if any, when the criteria apply shall be clearly stated (e.g., specific levels of hardness, pH, or water temperature). Specific sampling requirements (e.g., location, frequency), if any, shall also be identified.

E. The data, testing procedures, and application (safety) factors used to develop specific criteria shall reflect the nature of the condition (e.g., persistency, bioaccumulation potential) and the most sensitive species associated with the wetland.

F. Each specific criterion shall be promulgated in rule 10 CSR 20-7.031. The public notice shall include a description of the affected wetland and the reasons for applying the proposed criterion. A public hearing may be held in the geographical vicinity of the affected wetland. Any specific criterion promulgated under these provisions is subject to U.S. EPA approval prior to becoming effective.

(B) Toxic Substances.

1. Water contaminants shall not cause the criteria in Tables A and B to be exceeded. Concentrations of these substances in bottom sediments or waters shall not harm benthic organisms and shall not accumulate through the food chain in harmful concentrations, nor shall state and federal maximum fish tissue levels for fish consumption be exceeded. More stringent criteria may be imposed if there is evidence of additive or synergistic effects.

2. For compliance with this rule, metals shall be analyzed by the following methods:

A. Aquatic life protection and human-health protection—fish consumption.

(I) Mercury—total recoverable metals.

(II) All other metals—dissolved metals;

B. Drinking water supply—total recoverable metals; and

C. All other beneficial uses—total recoverable metals.

3. Other potentially toxic substances for which sufficient toxicity data are not available may not be released to waters of the state until safe levels are demonstrated through adequate bioassay studies.

4. Drinking water criteria, for substances which are rendered nontoxic by transformation processes in the surface water body, shall apply at water supply withdrawal points.

5. Site-specific alternative criteria for human health-fish consumption may be allowed. Designation of these site-specific criteria must follow the established variance request process.

6. Metals criteria for which toxicity is hardness dependent are in equation format in Table A.

7. Total ammonia nitrogen. For any given sample, the total ammonia nitrogen criteria shall be based on the pH and temperature of the water body measured at the time of each sample at the point of compliance.

A. The acute criteria shall not be exceeded at any time except in those waters for which the department has allowed a zone of initial dilution (ZID). The one- (1-) day Q_{10} low flow condition will be used in determining acute total ammonia nitrogen criteria.

B. The chronic criteria shall not be exceeded except in water segments for which the department has allowed a mixing zone (MZ). The chronic criteria shall be based on a thirty- (30-) day exposure period. Therefore, the thirty- (30-) day Q_{10} low flow condition of the receiving water body will be used in determining chronic total ammonia nitrogen criteria.

C. Without sufficient and reliable data, it is assumed that early life stages are present and must be protected at all times of the year.

(I) Sufficient and reliable data shall include, but are not limited to, seasonal studies on the fish species distributions, spawning periods, nursery periods, duration of sensitive life stages, and water body temperature. Best professional judgment from fisheries biologists and other scientists will be considered as appropriate.

(II) The time frames during the year when early life stages are considered to be absent are those time periods when early life stages are present in numbers that, if chronic toxicity did occur, would not affect the long-term success of the populations.

(III) A source of information for determining the duration of early life stages is *The American Society for Testing and Materials (ASTM) Standard E-1241*, "Standard Guide for Conducting Early Life-Stage Toxicity Tests with Fishes."

(IV) Protection of early life stages should include the most sensitive species that have used a water body for spawning and rearing since November 28, 1975.

(C) Bacteria. The protection of whole body contact recreation is limited to classified waters designated for that use. The recreational season is from April 1 to October 31. The *E. coli* count shall not exceed the criterion listed in Table A as a geometric mean during the recreational season in waters designated for whole body contact recreation. The *E. coli* count shall not exceed one hundred twenty-six (126) per one hundred milliliters (100 mL) at any time in losing streams. For waters designated for secondary contact recreation, the *E. coli* count shall not exceed one thousand one hundred thirty-four (1,134) per one hundred milliliters (100 mL) as a geometric mean during the recreational season.

(D) Temperature.

1. For general and limited warm-water fisheries beyond the mixing zone, water contaminant sources and physical alteration of the water course shall not raise or lower the temperature of a stream more than five degrees Fahrenheit (5 °F) or two and seven-ninths degrees Celsius (2 7/9 °C). Water contaminant sources shall not cause or contribute to stream temperature in excess of ninety degrees Fahrenheit (90 °F) or thirty-two and two-ninths degrees Celsius (32 2/9 °C). However, site-specific ambient temperature data and requirements of sensitive resident aquatic species will be considered, when data are available, to establish alternative maxima or deviations from ambient temperatures.

2. For cool-water fisheries beyond the mixing zone, water contaminant sources and physical alteration of the water course shall not raise or lower the temperature of a stream more than five degrees Fahrenheit (5 °F) or two and seven-ninths degrees Celsius (2 7/9 °C). Water contaminant sources shall not cause or contribute to stream temperature in excess of eighty-four degrees Fahrenheit (84 °F) or twenty-eight and eight-ninths degrees Celsius (28 8/9 °C).

3. For cold-water fisheries beyond the mixing zone, water contaminant sources and physical alteration of the water course shall not raise or lower the temperature of the water body more than two degrees Fahrenheit (2 °F) or one and one-ninth degrees Celsius (1 1/9 °C). Water contaminant sources shall not cause or contribute to temperatures above sixty-eight degrees Fahrenheit (68 °F) or twenty degrees Celsius (20 °C).

4. Water contaminant sources shall not cause any measurable rise in the temperature of lakes. An increase is allowable for Lake Springfield, Thomas Hill Reservoir, and Montrose Lake; however, discharges from these lakes must comply with temperature limits for streams.

5. For the Mississippi River Zones 1A and 2, the water temperature outside the mixing zone shall not exceed the maximum limits indicated in the following list during more than one percent (1%) of the time in any calendar year. In Zone 1B, limits may not be exceeded more than five percent (5%) of the time in a calendar year. At no time shall the river water temperature outside of the thermal mixing zone exceed the listed limits by more than three degrees Fahrenheit (3 °F) or one and six-ninths degrees Celsius (1 6/9 °C).

	A and B		**C**	
	(°F)	(°C)	(°F)	(°C)
January	45	7 2/9	50	10
February	45	7 2/9	50	10
March	57	13 8/9	60	15 5/9
April	68	20	70	21 1/9
May	78	25 5/9	80	26 6/9
June	86	30	87	30 5/9
July	88	31 1/9	89	31 6/9
August	88	31 1/9	89	31 6/9
September	86	30	87	30 5/9
October	75	23 8/9	78	25 5/9
November	65	18 3/9	70	21 1/9
December	52	11 1/9	57	13 8/9

A = Zone 1A—Des Moines River to Lock and Dam No. 25.
B = Zone 1B—Lock and Dam No. 25 to Lock and Dam No. 26.
C = Zone 2—Lock and Dam No. 26 to the Missouri-Arkansas state line.

6. Thermal mixing zones shall be limited to twenty-five percent (25%) of the cross-sectional area or volume of a river, unless biological surveys performed in response to section 316(a) of the federal Clean Water Act (or equivalent) indicate no significant adverse impact on aquatic life. Thermal plume lengths and widths within rivers, and all plume dimensions within lakes, shall be determined on a case-by-case basis and shall be based on physical and biological surveys when appropriate.

(E) pH. Water contaminants shall not cause pH to be outside of the range of 6.5 to 9.0 standard pH units.

(F) Taste- and Odor-Producing Substances. Taste- and odor-producing substances shall be limited to concentrations in the streams or lakes that will not interfere with beneficial uses of the water. For those streams and lakes designated for drinking water supply use, the taste- and odor-producing substances shall be limited to concentrations that will not interfere with the production of potable water by reasonable water treatment processes.

(G) Turbidity and Color. Water contaminants shall not cause or contribute to turbidity or color that will cause substantial visible contrast with the natural appearance of the stream or lake or interfere with beneficial uses.

(H) Solids. Water contaminants shall not cause or contribute to solids in excess of a level that will interfere with beneficial uses. The stream or lake bottom shall be free of materials which will adversely alter the composition of the benthos, interfere with the spawning of fish or development of their eggs, or adversely change the physical or chemical nature of the bottom.

(I) Radioactive Materials. All streams and lakes shall conform to state and federal limits for radionuclides established for drinking water supply.

(J) Dissolved Oxygen. Water contaminants shall not cause the dissolved oxygen to be lower than the levels described in Table A or Table K—Site-Specific Criteria.

(K) Total Dissolved Gases. Operation of impoundments shall not cause the total dissolved gas concentrations to exceed one hundred ten percent (110%) of the saturation value for gases at the existing atmospheric and hydrostatic pressures.

(L) Sulfate and Chloride Limit for Protection of Aquatic Life. Water contaminants shall not cause sulfate or chloride criteria to exceed the levels described in Table A.

(M) Carcinogenic Substances. Carcinogenic substances shall not exceed concentrations in water which correspond to the 10^{-6} cancer risk rate. This risk rate equates to one (1) additional cancer case in a population of one (1) million with lifetime exposure. Derivation of this concentration assumes average water and fish consumption amounts. Assumptions are two (2) liters of water and six and one-half (6.5) grams of fish consumed per day. Federally established final maximum contaminant levels for drinking water supply shall supersede drinking water supply criteria developed in this manner.

(N) Nutrients and Chlorophyll.

1. Definitions.

A. For the purposes of this rule—

(I) All lakes and reservoirs shall be referred to as "lakes"; and

(II) Only total phosphorus (TP) criteria are derived from lake characteristics. Total nitrogen (TN) and chlorophyll (Chl) criteria are determined as a function of TP criteria.

B. Lake ecoregions—Due to differences in topography, soils, and geology, nutrient criteria for lakes and reservoirs will be determined by the use of four (4) major ecoregions. These regions were delineated by grouping the ecological subsections described in Nigh and Schroeder, 2002, *Atlas of Missouri Ecoregions*, Missouri Department of Conservation as follows:

(I) Plains: TP2—Deep Loess Hills; TP3—Loess Hills; TP4—Grand River Hills; TP5—Chariton River Hills; TP6—Claypan Till Plains; TP7—Wyaconda River Dissected Till Plains; TP8—Mississippi River Hills;

(II) Ozark Border: MB2a—Crowley's Ridge Loess Woodland/Forest Hills; OZ11—Prairie Ozark Border; OZ12—Outer Ozark Border; OZ13—Inner Ozark Border;

(III) Ozark Highland: OZ1—Springfield Plain; OZ2—Springfield Plateau; OZ3—Elk River Hills; OZ4—White River Hills; OZ5—Central Plateau; OZ6—Osage River Hills; OZ7—Gasconade River Hills; OZ8—Meramec River Hills; OZ9—Current River Hills; OZ10—St. Francois Knobs and Basins; OZ14—Black River Ozark Border; and

(IV) Big River Floodplain: MB1—Black River Alluvial Plain; MB2b—Crowley's Ridge Footslopes and Alluvial Plains; MB3—St. Francis River Alluvial Plain; MB4, OZ16, TP9—Mississippi River Alluvial Plain; OZ15, TP1—Missouri River Alluvial Plain.

C. Criteria values.

(I) Prediction value—A TP concentration that is derived from the characteristics of a lake including dam height in feet, hydraulic residence time in years, and percentage of the watershed that was historically covered by prairie grasses. Prediction values for total phosphorus are calculated directly from these characteristics.

(II) Reference value—A TP concentration that is representative of lakes within an ecoregion having the following characteristics:

(a) Less than twenty percent (20%) of the watershed is in crop land and urban land combined;

(b) There are no point source wastewater discharges and no concentrated animal feeding operations within the watershed;

(c) In the Plains region, more than fifty percent (50%) of the watershed is in grass land; and

(d) In the Ozark Highlands region, more than fifty percent (50%) of the watershed is in woodland.

(III) Site-specific value—A TP concentration for a lake that has been identified as having trophic characteristics for which the reference of the ecoregion and the prediction values for that water body are not adequate to prevent deterioration of water quality. Site-specific criteria are applicable to lakes having a geometric mean TP concentration equal to or less than the 10th percentile value of the range of geometric mean TP concentrations measured in reference lakes within a lake ecoregion. Site-specific criteria are also applicable to lakes with actual TP geometric mean concentrations that are at or below the reference value where the prediction value is at or below the 10th percentile for TP geometric mean concentrations within a lake ecoregion. The 10th percentile values for each ecoregion are listed in Table L and lakes with site-specific criteria are listed in Tables M and N.

D. Tributary arm—A substantial segment of an L2 lake that is primarily recharged by a source or sources other than the main channel of the lake.

2. This rule applies to all lakes and reservoirs that are waters of the state and that are outside the Big River Floodplain ecoregion and have an area of at least ten (10) acres during normal pool.

3. Nutrient criteria for lakes and reservoirs with site-specific criteria are listed in Tables M and N. Nutrient criteria for other lakes are as follows:

A. Total phosphorus (TP)—

(I) For lakes in which the TP prediction value or the actual TP concentration does not exceed the reference value listed in Table L, the TP criterion shall be the reference value, except as described below;

(II) For lakes in which the TP prediction value does not exceed the reference value, and the actual TP value does not exceed the prediction value, the TP criterion shall be the prediction value;

(III) For lakes in which the TP prediction value and the actual TP concentration exceed the reference value listed in Table L, the TP criterion shall be limited to the prediction value; and

(IV) Site-specific TP criteria for the tributary arms of L2 lakes are listed in Table N;

B. Total nitrogen (TN)—

(I) For lakes in which the TP prediction value does not exceed the reference value listed in Table L, TN concentration shall be limited to twenty (20) times the TP reference value;

(II) For lakes in which the TP prediction value does not exceed the reference value, and the actual TP value does not exceed the prediction value, TN concentration shall be limited to twenty (20) times the TP prediction value;

(III) For lakes in which the TP prediction value exceeds the TP reference value listed in Table L, TN concentration shall be limited to twenty (20) times the TP prediction value; and

(IV) This portion of the rule does not apply to lakes that are held to site-specific criteria for TP, TN, and Chl, as listed in Tables M and N; and

C. Chlorophyll (Chl)—Chl criteria shall be calculated from TP criteria as follows:

(I) Plains: Chl:TP = 0.44;

(II) Ozark Border and Ozark Highlands: Chl:TP = 0.42; and

(III) This portion of the rule does not apply to lakes that are held to site-specific criteria for TP, TN, and Chl, as listed in Tables M and N.

4. All TP, TN, and chlorophyll concentrations must be calculated as the geometric mean of a minimum of four (4) representative samples per year for four (4) years that are not necessarily consecutive. All samples must be collected from the surface, near the outflow end of the lake, and during the period May 1–August 31.

(O) All methods of sample collection, preservation, and analysis used in applying criteria in these standards shall be in accord with those prescribed in the latest edition of *Standard Methods for the Examination of Water and Wastewater* or other procedures approved by the Environmental Protection Agency and the Missouri Department of Natural Resources.

(P) Criteria to protect designated uses are based on current technical literature, especially the Environmental Protection Agency's publication, *Quality Criteria for Water*, 1986. Criteria may be modified or expanded as additional information is developed or as needed to define narrative criteria for particular situations or locations.

(Q) WET Chronic Tests. Chronic WET tests performed at the percent effluent at the edge of the mixing zone shall not be toxic to the more sensitive of at least two (2) representative, diverse species. Pollutant attenuation processes such as volatilization and biodegradation which may occur within the allowable mixing zone will be considered in interpreting results.

(R) Biocriteria. The biological integrity of waters, as measured by lists or numeric diversity indices of benthic invertebrates, fish, algae, or other appropriate biological indicators, shall not be significantly different from reference waters. Waters shall be compared to reference waters of similar size within an ecoregion. Reference water locations are listed in Table I.

(S) Site-Specific Criteria Development for the Protection of Aquatic Life. When water quality criteria in this regulation are either underprotective or overprotective of water quality due to natural, non-anthropogenic conditions for a given water body segment, a petitioner may request site-specific criteria. The petitioner must provide the department with sufficient documentation to show that the current criteria are not adequate and that the proposed site-specific criteria will protect all existing and/or potential uses of the water body.

1. Site-specific criteria may be appropriate where, but is not limited to the examples given in subparagraphs A. or B. of this paragraph.

A. The resident aquatic species of the selected water body have a different degree of sensitivity to a specific pollutant as compared to those species in the data set used to calculate the national or state criteria as described in either of the following parts:

(I) Natural adaptive processes have enabled a viable, balanced aquatic community to exist in waters where natural (non-anthropogenic) background conditions exceed the criterion (e.g., resident species have evolved a genetically-based greater tolerance to high concentrations of a chemical); or

(II) The composition of aquatic species in a water body is different from those used in deriving a criterion (e.g., most of the species considered among the most sensitive, such as salmonids or the cladoceran, *Ceriodaphinia dubia*, which were used in developing a criterion, are absent from a water body).

B. The physical and/or chemical characteristics of the water body alter the biological availability and/or toxicity of the pollutant (e.g., pH, alkalinity, salinity, water temperature, hardness).

2. All petitioners seeking to develop site-specific criteria shall coordinate with the department early in the process. This coordination will ensure the use of adequate, relevant, and quality data; proper analysis and testing; and defendable procedures. The department will provide guidance for establishing site-specific water quality criteria using scientific procedures including, but not limited to, those procedures described in the U.S. Environmental Protection Agency's *Water Quality Standards Handbook,* Second Edition, August 1994.

3. Site-specific criteria shall protect all life stages of resident species and prevent acute and chronic toxicity in all parts of a water body.

4. Site-specific criteria shall include both chronic and acute concentrations to better reflect the different tolerances of resident species to the inherent variability between concentrations and toxicological characteristics of a chemical.

5. Site-specific criteria shall be clearly identified as maximum "not to be exceeded" or average values, and if an average, the averaging period and the minimum number of samples. The conditions, if any, when the criteria apply shall be clearly stated (e.g., specific levels of hardness, pH, or water temperature). Specific sampling requirements (e.g., location, frequency), if any, shall also be identified.

6. The data, testing procedures, and application (safety) factors used to develop site-specific criteria shall reflect the nature of the chemical (e.g., persistency, bioaccumulation potential, and avoidance or attraction responses in fish) and the most sensitive resident species of a water body.

7. The size of a site may be limited to a single water segment, single water subsegment, or may cover a whole watershed depending on the particular situation for which the specific criterion is developed. A group of water bodies may be considered one (1) site if their respective aquatic communities are similar in composition and have comparable water quality.

8. The department shall determine if a site-specific criterion is adequate and justifiable. Each site-specific criterion shall be promulgated into rule 10 CSR 20-7.031. The public notice shall include a description of the affected water body or water body segment and the reasons for applying the proposed criterion. If the department determines that there is significant public interest, a public hearing may be held in the geographical vicinity of the affected water body or water body segment. Any site-specific criterion promulgated under these provisions is subject to U.S. EPA approval prior to becoming effective.

(5) Groundwater.

(A) Water contaminants shall not cause or contribute to exceedence of Table A, groundwater limits in aquifers and caves. Table A values listed as health advisory levels shall be used in establishing management strategies and groundwater cleanup criteria, until additional data becomes available to support alternative criteria or other standards are established. Substances not listed in Table A shall be limited so that drinking water, livestock watering, and irrigation uses are protected.

(B) When criteria for the protection of aquatic life or human health protection-fish consumption in Table A are more stringent than groundwater criteria, appropriate criteria for the protection of aquatic life or human health protection-fish consumption shall apply to waters in caves and to aquifers which contribute an important part of base flow of surface waters designated for aquatic life protection. Other substances not listed in Table A shall be limited in these aquifers and caves so that the aquatic life use is protected.

(C) Groundwater and other criteria shall apply in any part of the aquifer, including the point at which the pollutant enters the aquifer. A specific monitoring depth requirement for releases to aquifers is included in 10 CSR 20-7.015(7)(A).

(D) For aquifers in which contaminant concentrations exceed groundwater criteria or other protection criteria, and existing and potential uses are not impaired, alternative site-specific criteria may be allowed. To allow alternative criteria, the management authority must demonstrate that alternative criteria will not impair existing and potential uses. The demonstration must consider the factors and be subject to the review requirements of 10 CSR 20-7.015(7)(F).

(6) Metropolitan No-Discharge Streams. No water contaminant except uncontaminated cooling water, permitted stormwater discharges in compliance with permit conditions and excess wet-weather bypass discharges not interfering with beneficial uses, shall be discharged to the

watersheds of streams listed in Table F. Existing interim discharges may be allowed until interceptors are available within two thousand feet (2,000') or a distance deemed feasible by the department, or unless construction of outfalls to alternative receiving waters not listed in Table F is deemed feasible by the department. Existing discharges include wastewater volumes up to the design capacity of existing permitted treatment facilities, including phased increases in design capacity approved by the department prior to the effective date of this rule. Additional facilities may be constructed to discharge to these waters only if they are intended to be interim facilities in accordance with a regional wastewater treatment plan approved by the department.

(7) Outstanding National Resource Waters. Under section (2), antidegradation section of this rule, new releases to outstanding national resource waters from any source are prohibited and releases from allowed facilities are subject to special effluent limitations as required in 10 CSR 20-7.015(6). Table D contains a list of the outstanding national resource waters in Missouri.

(8) Outstanding State Resources Waters. The commission wishes to recognize certain high-quality waters that may require exceptionally stringent water-quality management requirements to assure conformance with the antidegradation policy. The degree of management requirements will be decided on an individual basis. To qualify for inclusion, all of the following criteria must be met. The waters listed in Table E must—

(A) Have a high level of aesthetic or scientific value;

(B) Have an undeveloped watershed; and

(C) Be located on or pass through lands which are state or federally owned, or which are leased or held in perpetual easement for conservation purposes by a state, federal, or private conservation agency or organization.

(9) Lake Taneycomo. The commission wishes to recognize the uniqueness of Lake Taneycomo with respect to its high water clarity, its importance as a trout fishery, and as the central natural resource in the rapidly developing Branson area and threats to the lake's water quality imposed by development. An especially stringent antidegradation policy will be observed in the development of effluent rules, discharge permits, and nonpoint-source management plans and permits to assure that the high visual quality and aquatic resources are maintained. The use of the best treatment technology for point- and nonpoint-source discharges in the lake's watershed between Table Rock Lake and Power Site Dam will be the guiding principle in establishing limitations.

(10) Compliance with Water Quality Based Limitations. Compliance with new or revised National Pollutant Discharge Elimination System (NPDES) or Missouri operating permit limitations based on criteria in this rule shall be achieved with all deliberate speed and in accordance with federal regulation at 40 CFR Part 122.47, "Schedules of Compliance," May 15, 2000, as published by the Office of the Federal Register, National Archives and Records Administration, Superintendent of Documents, Pittsburgh, PA 15250-7954, which is hereby incorporated by reference and does not include any later amendments or additions. The department shall maintain a copy of the referenced document and shall make it available to the public for inspection and copying at no more than the actual cost of reproduction.

(11) Losing Streams.

(A) Losing stream determinations will usually be made upon the first application for discharge to a specific water or location within a watershed for a wastewater treatment facility, subdivision development, or animal waste management facility.

(B) Permits or other approvals for those applications will be processed in accordance with the determinations. Additional permits or approvals will be processed in accordance with the latest determination.

(C) For application purposes, any proposed facility within five (5) miles of a known losing stream segment should presume that facility's receiving stream segment is also losing until and unless a specific geologic evaluation is made of that stream and concludes the stream segment is gaining.

(D) Existing facilities operating under a state operating permit and new facilities being constructed under a construction permit in proximity to stream segments subsequently determined to be losing will be allowed to continue in operation at permitted or approved effluent limits for a period of time lasting the design life of the facility (usually twenty (20) years from the original construction completion), provided the facility is in compliance with its effluent limits and remains in compliance with those limits, and if neither of the following conditions is present:

1. If the discharge from such a facility can be eliminated by connection to a locally available facility, the facility shall be connected within three (3) years of the losing stream determination. A local facility shall be considered available if that facility or an interceptor is within two thousand feet (2000') or a distance deemed feasible by the department; and

2. If the discharge from such a facility is shown to cause pollution of groundwater, the facility shall be upgraded to appropriate effluent standards within three (3) years. The department shall include appropriate groundwater monitoring requirements in permits for any such facilities so that pollution, should it occur, would be detected.

(E) Any additional permits or approvals for increased treatment plant design capacity will be processed in accordance with the newest losing stream determination. No additional permits or approvals for any facilities shall be construed as lengthening the time for compliance with losing stream effluent limitations as established in subsection (11)(D).

(12) Severance. If a section, subsection, paragraph, sentence, clause, phrase, or any part of this rule be declared unconstitutional or invalid for any reason, the remainder of this rule shall not be affected and shall remain in full force and effect.

(13) Effective Date. This rule becomes effective immediately upon adoption and compliance with the requirements of subsection 644.036.3., RSMo, of the Missouri Clean Water Law and Chapter 536, RSMo.

Table A—Criteria for Designated Uses

WBC = Whole Body Contact Recreation
SCR = Secondary Contact Recreation
AQL = Protection of Aquatic Life
DWS = Drinking Water Supply
LWW = Livestock and Wildlife Watering
GRW = Groundwater

Pollutant (μg/L)	**AQL**
Chlorine (total residual)	
cold-water	2
warm-water chronic—	10
acute—	19
Cyanide (amenable to chlorination)	
chronic—	5
acute—	22
Hydrogen sulfide (un-ionized)	2

Pollutant (mg/L)	**AQL**	**DWS**	**LWW**	**GRW**
Chloride chronic—	(+)	250		
acute—	(+)			
Sulfate	(+)	250		
Fluoride		4	4	4
Nitrate-N		10		10
Dissolved oxygen (minimum)*				
warm-water and cool-water fisheries	5			
cold-water fisheries	6			
Oil and grease	10			

+ See Non-Metals (Hardness Dependent).
* Site-Specific Criteria have been promulgated for waters listed in Table K.

Pollutant (/100 mL)	**WBC-A**	**WBC-B**	**SCR**
E. coli Bacteria**	126	206	1134

**Geometric mean during the recreational season in waters designated for recreation or at any time in losing streams. The recreational season is from April 1 to October 31.

Pollutant	**AQL**	
Temperature (maximum)	°F	°C
warm-water	90	32 2/9
cool-water	84	28 8/9
cold-water	68	20
Temperature (maximum change)		
warm-water	5	2 7/9
cool-water	5	2 7/9
cold-water	2	1 6/9

Pollutant (percent saturation)	**AQL**
Total Dissolved Gases	110%

AQL = Protection of Aquatic Life
HHF = Human Health Protection-Fish Consumption
DWS = Drinking Water Supply
IRR = Irrigation
LWW = Livestock Wildlife Watering
GRW = Groundwater

Pollutant (µg/L)	**AQL**	**HHF**	**DWS**	**IRR**	**LWW**	**GRW**
Metals (refer to text in 10 CSR 20-7.031(4)(B)2.) (Not Hardness Dependant)						
Aluminum (acute)	750					
Antimony		4,300	6			6
Arsenic	20		50	100		50
Barium			2,000			2,000
Beryllium	5		4	100		4
Boron				2,000		2,000
Cadmium	*		5			5
Chromium III	*		100	100		100
Chromium VI						
chronic	10					
acute	15					
Cobalt					1,000	1,000
Copper	*		1,300		500	1,300
Iron	1,000					300
Lead	*		15			15
Manganese						50
Mercury			2			2
chronic	0.5					
acute	2.4					
Nickel	*		100			100
Selenium	5		50			50
Silver	*		50			50
Thallium		6.3	2			2
Zinc	*		5,000			5,000

*See Metals (Hardness Dependent)

AQL = Protection of Aquatic Life

Pollutant (μg/L)	**AQL**	
Metals (Hardness Dependent)		
Cadmium (μg/L)	Acute:	e(1.0166*ln(Hardness) − 3.062490) * (1.136672 − (ln(Hardness)*0.041838))
	Chronic:	e(0.7409*ln(Hardness) − 4.719948) * (1.101672 − (ln(Hardness)*0.041838))
Chromium III (μg/L)	Acute:	e(0.8190*ln(Hardness) + 3.725666) * 0.316
	Chronic:	e(0.8190*ln(Hardness) + 0.684960) * 0.860
Copper (μg/L)	Acute:	e(0.9422*ln(Hardness) − 1.700300) * 0.960
	Chronic:	e(0.8545*ln(Hardness) − 1.702) * 0.960
Lead (μg/L)	Acute:	e(1.273*ln(Hardness) − 1.460448) * (1.46203 − (ln(Hardness)*0.145712))
	Chronic:	e(1.273*ln(Hardness) − 4.704797) * (1.46203 − (ln(Hardness)*0.145712))
Nickel (μg/L)	Acute:	e(0.8460*ln(Hardness) + 2.255647) * 0.998
	Chronic:	e(0.8460*ln(Hardness) + 0.058978) * 0.997
Silver (μg/L)	Acute:	e(1.72*ln(Hardness) − 6.588144) * 0.850
Zinc (μg/L)	Acute:	e(0.8473*ln(Hardness) + 0.884) * 0.98
	Chronic:	e(0.8473*ln(Hardness) + 0.884) * 0.98

	Hardness								
	50–74	**75–99**	**100–124**	**125–149**	**150–174**	**175–199**	**200–224**	**225–249**	**250+**
Cadmium									
Acute:	2.4	3.6	4.8	5.9	7.1	8.2	9.4	10.5	11.6
Chronic:	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.5
Chromium III									
Acute:	323	450	570	684	794	901	1,005	1,107	1,207
Chronic:	42	59	74	89	103	117	131	144	157
Copper									
Acute:	7	10	13	17	20	23	26	29	32
Chronic:	5	7	9	11	13	14	16	18	20
Lead									
Acute:	30	47	65	82	100	118	136	154	172
Chronic:	1	2	3	3	4	5	5	6	7
Nickel									
Acute:	261	367	469	566	660	752	842	930	1,017
Chronic:	29	41	52	63	73	84	94	103	113
Silver									
Acute:	1.0	2.0	3.2	4.7	6.5	8.4	10.6	13.0	15.6
Zinc									
Acute:	65	92	117	142	165	188	211	233	255
Chronic:	65	92	117	142	165	188	211	233	255

AQL = Protection of Aquatic Life

Pollutant (mg/L)	**AQL**		
Non-Metals (Hardness Dependent)			
Chloride (mg/L)	Acute: $287.8 * (\text{Hardness})^{0.205797} * (\text{Sulfate})^{-0.07452}$		
	Chronic: $177.87 * (\text{Hardness})^{0.205797} * (\text{Sulfate})^{-0.07452}$		
Sulfate (mg/L)	Chloride, Cl- (mg/L)		
Hardness, H (mg/L)	Cl- < 5	5 ≤ Cl- < 25	25 ≤ Cl- ≤ 500
H < 100	500	500	500
100 ≤ H ≤ 500	500	S1	S2
H > 500	500	2,000	2,000

S1 = [-57.478 + 5.79 (hardness) + 54.163 (chloride)] * 0.65
S2 = [1276.7 + 5.508 (hardness) − 1.457 (chloride)] * 0.65

AQL = Protection of Aquatic Life
HHF = Human Health Protection-Fish Consumption
DWS = Drinking Water Supply
GRW = Groundwater

Pollutant (µg/L)	AQL	HHF	DWS	GRW
Organics				
Acrolein		780	320	320
Bis-2-chloroisopropyl ether		4,360	1,400	1,400
2, chlorophenol		400	.1	.1
2,4-dichlorophenol	7	790	93	93
2,4-dinitrophenol		14,000	70	70
2,4-dimethylphenol		2,300	540	540
2,4,5-trichlorophenol		9,800	2,600	2,600
2,4,6-trichlorophenol		6.5	2	2
2-methyl-4,6-dinitrophenol		765	13	13
Ethylbenzene	320		700	700
Hexachlorocyclopentadiene	.5		50	50
Isophorone		2,600	36	36
Nitrobenzene		1,900	17	17
Phenol			100	300
chronic—	2,560			
acute—	10,200			
Dichloropropene		1,700	87	87
Para(1,4)-dichlorobenzene		2,600	75	75
Other Dichlorobenzenes		2,600	600	600
1,2,4-trichlorobenzene		940	70	70
1,2,4,5-tetrachlorobenzene		2.9	2.3	2.3
pentachlorobenzene		4.1	3.5	3.5
1,1,1-trichloroethane			200	200
1,1,2-trichloroethane		42	5	5
2,4-dinitrotoluene		9	.11	.04
1,2-diphenylhydrazine		.54	.04	.04
di (2-ethylhexyl) adipate			400	400
n-nitrosodiphenylamine		16	5	5
n-nitrosopyrrolidene		91.9		
2-chloronaphthalene	4,300			
n-nitrosodi-n-propylamine		1.4		

Pollutant (µg/L)	AQL	DWS	GRW
Pesticides			
Demeton	.1		
Endosulfan			
chronic—	.056		
acute—	0.11		
Guthion	.01		
Malathion	.1		
Parathion	.04		
2,4-D		70	70
2,4,5-TP		50	50
Chlorpyrifos	.04		
Alachlor		2	2
Atrazine		3	3
Carbofuran		40	40
Dalapon		200	200
Dibromochloropropane		.2	.2
Dinoseb		7	7
Diquat		20	20
Endothall		100	100
Ethylene dibromide		.05	.05
Oxamyl (vydate)		200	200
Picloram		500	500
Simazine		4	4
Glyphosate		700	700

AQL = Protection of Aquatic Life
HHF = Human Health Protection-Fish Consumption
DWS = Drinking Water Supply
GRW = Groundwater

Pollutant (μg/L)	AQL	HHF	DWS	GRW
Bioaccumulative, Anthropogenic Toxics (+)				
PCBs		.000045		.000045
4-4' dichlorodiphenyldichloroethane (DDT)		0.00059	0.00059	0.00059
4-4' dichlorodiphenyldichloroethylene (DDE)		0.00059	0.00059	0.00059
4-4' dichlorodiphenyldichloroethane (DDD)		0.00084	0.00083	0.00083
Endrin		.0023	2	2
Endrin aldehyde		.0023	.75	.75
Aldrin		.000079	.00013	.00013
Dieldrin		.000076	.00014	.00014
Heptachlor	.0038	.0002	0.4	0.4
Heptachlor epoxide		.00011	0.2	0.2
Methoxychlor	.03		40	40
Mirex	.001			
Toxaphene		.000073	3	3
Lindane (gamma-BHC)		.062	.2	.2
Alpha,beta,delta-BHC		.0074	.0022	.0022
Chlordane		.00048	2	2
Benzidine		.00053	.00012	.00012
2,3,7,8-tetrachlorodibenzo-p-dioxin (ng/L)* (TCDD or dioxin)		.000014	0.000013	0.000013
Pentachlorophenol**	3.2–pH 6.5 5.3–pH 7.0 8.7–pH 7.5 14.0–pH 8.0 23.0–pH 8.5	8	1	1

+Many of these values are below current detection limits; analyses will be determined by the 17th edition of *Standard Methods* or the most current methods approved by the Environmental Protection Agency.

*Units for dioxin are nanograms/liter (ng/L); 1 μg/L = 1,000 ng/L.

**Toxic impurities may be present in technical-grade pentachlorophenol; monitoring and discharge control will assure that impurities are below toxic concentrations.

HHF = Human Health Protection-Fish Consumption
DWS = Drinking Water Supply
GRW = Groundwater

Pollutant (µg/L)	HHF	DWS	GRW
Anthropogenic Carcinogens(+)			
Acrylonitrile	.65	.058	.058
Hexachlorobenzene	.00074	1	1
Bis (2-chloroethyl) ether	1.4	.03	.03
Bis (chloromethyl) ether	0.00078	.00013	.00013
Hexachloroethane	8.7	1.9	1.9
3,3'-dichlorobenzidine	0.08	.04	.04
Hexachlorobutadiene	50	.45	.45
n-nitrosodimethylamine	8	.0007	.0007

(+) Some of these values are below current detection limits; analyses will be determined by the 17th edition of *Standard Methods* or the most current methods approved by the Environmental Protection Agency.

Pollutant (µg/L)	HHF	DWS	GRW
Volatile Organics			
Chlorobenzene	21,000	100	100
Carbon Tetrachloride	5	5	5
Trihalomethanes		80	80
Bromoform	360	4.3	4.3
Chlorodibromomethane	34	0.41	0.41
Dichlorobromomethane	46	0.56	0.56
Chloroform	470	5.7	5.7
Methyl Bromide	4,000	48	48
Methyl Chloride	470	5	5
Methylene Chloride	1,600	4.7	4.7
Dichlorodifluoromethane	570,000		
Trichlorofluoromethane	860,000		
1,2-dichloroethane	99	5	5
1,1,2,2-tetrachloroethane	11	.17	.17
1,1-dichloroethylene	3.2	7	7
1,2-trans-dichloroethylene	140,000	100	100
1,2-cis-dichloroethylene		70	70
Trichloroethylene	80	5	5
Tetrachloroethylene	8.85	0.8	0.8
Benzene	71	5	5
Toluene	200,000	1,000	1,000
Xylenes (total)		10,000	10,000
Vinyl chloride	525	2	2
Styrene		100	100
1,2-dichloropropane	39	0.52	0.52

Pollutant (Fibers/L)	DWS	GRW
Asbestos	7,000,000	

HHF = Human Health Protection-Fish Consumption
DWS = Drinking Water Supply
GRW = Groundwater

Pollutant (µg/L)	HHF	DWS	GRW
Polynuclear Aromatic Hydrocarbons			
Anthracene	110,000	9,600	9,600
Fluoranthene	370	300	300
Fluorene	14,000	1,300	1,300
Pyrene	11,000	960	960
Benzo(a)pyrene	.049	0.2	0.2
other polynuclear aromatic hydrocarbons*	.049	.0044	.0044
Acenaphthene	2,700	1,200	1,200

*This concentration is allowed for each of the following PAHs: benzo(a)anthracene, 3,4-benzofluoranthene, chrysene, dibenzo-(a,h)anthracene, indeno(1,2,3-cd)pyrene and benezo(k)fluoranthene. Higher values may be allowed if natural background concentrations exceed these values.

Pollutant (µg/L)	HHF	DWS	GRW
Phthalate Esters			
Bis(2-ethylhexyl) phthalate	5.9	6	6
Butylbenzyl phthalate	5,200	3,000	3,000
Diethyl phthalate	120,000	23,000	23,000
Dimethyl phthalate	2,900,000	313,000	313,000
Di-n-butyl phthalate	12,000	2,700	2,700

Health Advisory Levels

Pollutant (µg/L)	DWS	GRW
Ametryn	60	60
Baygon	3	3
Bentazon	20	20
Bis-2-chloroisopropyl ether	300	300
Bromacil	90	90
Bromochloromethane	90	90
Bromomethane	10	10
Butylate	350	350
Carbaryl	700	700
Carboxin	700	700
Chloramben	100	100
o-chlorotoluene	100	100
p-chlorotoluene	100	100
Chlorpyrifos	20	20
DCPA (dacthal)	4,000	4,000
Diazinon	0.6	0.6
Dicamba	200	200
Diisopropyl methylphosphonate	600	600
Dimethyl methylphosphonate	100	100
1,3-dinitrobenzene	1	1
Diphenamid	200	200
Diphenylamine	200	200
Disulfoton	0.3	0.3
1,4-dithiane	80	80
Diuron	10	10

DWS = Drinking Water Supply
GRW = Groundwater

Health Advisory Levels (continued)

Pollutant (µg/L)	DWS	GRW
Fenamiphos	2	2
Fluometron	90	90
Fluorotrichloromethane	2,000	2,000
Fonofos	10	10
Hexazinone	200	200
Malathion	200	200
Maleic hydrazide	4,000	4,000
MCPA	10	10
Methyl parathion	2	2
Metolachlor	70	70
Metribuzin	100	100
Naphthalene	20	20
Nitroguanidine	700	700
p-nitrophenol	60	60
Paraquat	30	30
Pronamide	50	50
Propachlor	90	90
Propazine	10	10
Propham	100	100
2,4,5-T	70	70
Tebuthiuron	500	500
Terbacil	90	90
Terbufos	0.9	0.9
1,1,1,2-Tetrachloroethane	70	70
1,2,3-trichloropropane	40	40
Trifluralin	5	5
Trinitroglycerol	5	5
Trinitrotoluene	2	2

Table C
Waters Designated for Cold-Water Fishery

Water Body	Miles/Acres	From	To	County(ies)
Barren Fork	2.0	Mouth	20,31N,4W	Shannon
Bee Creek	1.0	Mouth	Hwy. 65	Taney
Bender Creek	0.7	Mouth	10,31N,9W	Texas
Bennett Springs Creek	2.0	Mouth	Bennett Springs	Laclede
Blue Springs Creek	4.0	Mouth	2,39N,3W	Crawford
Bryant Creek	1.0	3,23N,12W	34,24N,12W	Ozark
Bryant Creek	6.0	19,27N,14W	8,27N,15W	Douglas
Buffalo Creek	10.0	State line	5,23N,33W	McDonald
Bull Creek	5.0	Mouth	34,24N,21W	Taney
Bull Shoals Lake	9,000.0 ac.	21/34,20N,15W	---	Ozark
Capps Creek	4.0	Mouth	17,25N,28W	Newton-Barry
Cedar Creek	1.0	21,26N,32W	28,26N,32W	Newton
Center Creek	3.0	24,27N,29W	17,27N,28W	Lawrence
Chesapeake Creek	3.0	Mouth	29,28N,25W	Lawrence
Crane Creek	15.0	8,25N,23W	24,26N,25W	Stone-Lawrence
Current River	19.0	24,31N,6W	Montauk Spring	Shannon-Dent
Dogwood Creek	2.3	Mouth	State line	Stone
Dry Creek	4.0	Mouth	14,37N,3W	Crawford
Eleven Point River	33.5	State line	36,25N,4W	Oregon
Flat Creek	3.0	9,23N,27W	21,23N,27W	Barry
Goose Creek	4.0	Mouth	10,28N,25W	Lawrence
Greer Spring Branch	1.0	Mouth	36,25N,4W	Oregon
Hickory Creek	4.5	13,25N,31W	28,25N,31W	Newton
Hobbs Hollow	2.7	Mouth	State line	Stone
Horse Creek	2.2	Mouth	23,35N,8W	Dent
Hunter Creek	5.0	22,26N,15W	20,26N,14W	Douglas
Hurricane Creek	1.5	Mouth	30,24N,12W	Ozark
Hurricane Creek	3.2	Mouth	22,25N,3W	Oregon
Indian Creek	1.4	Mouth	17,21N,23W	Stone
Indian Creek	20.0	Mouth	36,39N,01W	Franklin-Washington
Johnson Creek	3.0	Mouth	36,29N,26W	Lawrence
Joyce Creek	1.0	17,24N,28W	16,24N,28W	Barry
L. Flat Creek	3.5	Mouth	25,25N,27W	Barry
L. Piney Creek	15.0	25,37N,9W	4,35N,8W	Phelps
L. Piney Creek	4.0	04,35N,08W	21,35N,08W	Phelps
L. Sinking Creek	2.2	Mouth	33,32N,4W	Dent
Lake Taneycomo	1,730.0 ac.	8,23N,20W	---	Taney
Lyman Creek	1.0	Mouth	30,40N,3W	Crawford
Maramec Spring Branch	1.0	Mouth	1,37N,6W	Phelps
Meramec River	10.0	22,38N,5W	Hwy. 8	Crawford
Mill Creek	1.5	Mouth	11,40N,8W	Maries
Mill Creek	1.5	Mouth	9,36N,18W	Dallas
Mill Creek	5.0	29,37N,9W	Yelton Spring	Phelps
N. Fork White River	23.0	09,22N,12W	34,25N,11W	Ozark
Niangua River	6.0	11,35N,18W	Bennett Sp. Creek	Dallas
Roaring River	7.0	Mouth	34,22N,27W	Barry
Roark Creek	3.0	Mouth	36,23N,22W	Taney
Roubidoux Creek	4.0	Mouth	25,36N,12W	Pulaski
S. Indian Creek	9.0	24,24N,31W	1,23N,30W	Newton
Schafer Spring Creek	2.0	Mouth	20,32N,6W	Dent
Shoal Creek	1.0	Mouth	18,41N,17W	Morgan
Shoal Creek	7.0	09,25N,29W	16,22N,21W	Newton
Spring Branch	1.0	Mouth	18,41N,17W	Morgan
Spring Creek	5.0	Mouth	14,23N,11W	Ozark
Spring Creek	6.5	Mouth	31,35N,9W	Phelps
Spring Creek	2.5	Mouth	4,41N,2W	Franklin
Spring Creek	5.5	Mouth	12,26N,24W	Stone
Spring Creek	6.0	Mouth	06,24N,13W	Douglas-Ozark
Spring Creek	2.5	Mouth	26,25N,11W	Douglas
Spring Creek	4.0	Mouth	30,25N,4W	Oregon
Spring River	11.2	13,27N,27W	20,26N,26W	Lawrence
Stone Mill Spring Branch	0.2	Mouth	Spring	Pulaski
Terrell Creek	2.0	Mouth	2,27N,23W	Christian
Tory Creek	2.5	Mouth	27,26N,22W	Stone-Christian

Table C
Waters Designated for Cold-Water Fishery

Water Body	Miles/Acres	From	To	County(ies)
Turkey Creek	2.0	Mouth	16,22N,21W	Taney
Turkey Creek	1.0	Mouth	17,23N,15W	Ozark
Turnback Creek	14.0	35,30N,26W	24,28N,25W	Dade-Lawrence
Warm Fork Spring River	3.0	6,22N,5W	30,23N,5W	Oregon
Whittenburg Creek	2.5	Mouth	Hwy. 8	Crawford
Williams Creek	1.0	Mouth	28,28N,27W	Lawrence
Woods Fork Bull Creek	1.0	15,25N,21W	15,25N,21W	Christian
Yadkin Creek	3.0	Mouth	9,37N,4W	Crawford
Yankee Branch	1.0	Mouth	10,36N,4W	Crawford

Table G-Lake Classifications and Use Designations

NOTE: Fishing, Swimming and livestock watering may not be allowed in some lakes by the local management authorities. The use designations refer only to the protection of water quality for those potential uses.

WATER BODY	CLASS	ACRES	LOCATION	COUNTY(IES)	LWW	AQL	CDF	WBC	SCR	DWS	IND
34 Corner Blue Hole	L3	9.0	35,25N,17E	Mississippi	X	X		B			
Adrian Reservoir	L1	45.0	03,41N,31W	Bates	X	X		B		X	
Agate Lake	L3	210.7	13,60N,06W	Lewis	X	X		A	X		
Amarugia Lake	L3	39.0	10/11,43N,32W	Cass	X	X		B	X		
Anderson's Whippoorwill Farm Lake	L3	30.0	SW SE 28,28N,11E	Stoddard	X	X		B			
Anthonies Mill Lake	L3	91.0	SW SW 19,39N,01W	Washington	X	X		B	X		
Antimi Lake	L3	2.0	NE NE 3,48N,12W	Boone	X	X		B			
Apollo Lake	L3	15.0	21,36N,05E	St. Francois	X	X		B	X		
Appleton City Lake	L1	35.0	12,39N,29W	Bates	X	X		B		X	
Archie Lakes	L1	7.3	SESE28,43N,31W	Cass	X	X		B		X	
Armstrong Lake	L1	8.0	NE NE 28,52N,16W	Howard	X	X		B		X	
Athens State Park Lake	L3	8.0	30,67N,07W	Clark	X	X		A	X		
Atkinson Lake	L3	434.0	NW SE06,37N,28W	St. Clair/Vernon	X	X		A	X		
Atlanta City Lake	L1	17.0	SE SW29,59N,14W	Macon	X	X		B		X	
Austin Community Lake	L3	21.0	30,29N,11W	Texas	X	X		A	X		
Baha Trail Lake	L3	16.0	05,39N,01E	Washington	X	X		B	X		
Baring Country Club Lake	L1	81.0	SE26,63N,12W	Knox	X	X		A	X	X	
Bass Lake	L3	29.0	13,47N,08W	Callaway	X	X		A	X		
Bean Lake	L3	420.0	12,13,14,23, 24, 54N,37W	Platte	X	X		B	X		
Bear Creek Watershed Lake	L3	26.7	6,63N,09W	Clark	X	X		B	X		
Beaver Lake	L3	14.0	22,25N,04E	Butler	X	X		A			
Bee Tree Lake	L3	10.0	03,42N,06E	St. Louis	X	X		B	X		
Belcher Branch Lake	L3	42.0	08/17,55N,34W	Buchanan	X	X		B	X		
Belle City Lake	L3	6.0	20,41N,07W	Maries	X	X		B			
Ben Branch Lake	L3	37.0	15/14,44N,08W	Osage	X	X		B	X		
Berndt Lake	L1	21.0	NE SW30,66N,23W	Mercer	X	X		B		X	
Bevier Lake	L3	5.0	S SE,14,57N,15W	Macon	X	X		B			
Big Buffalo C.A. Lakes	L3	7.9	2,12,41N,20W	Benton	X	X		B			
Big Lake	L3	666.0	18&19,30,61N,39W	Holt	X	X		A	X		
Big Oak Tree S.P. Lake	L3	33.0	14,23N,16E	Mississippi	X	X		B			
Big Soldier Lake	L3	5.0	36,50N,19W	Saline	X	X		B	X		
Bilby Ranch Lake	L3	95.0	13/24,64N,38W	Nodaway	X	X		B	X		
Binder Lake	L3	127.0	SW SE36,45N,13W	Cole	X	X		B	X		
Blind Pony Lake	L3	96.0	NW SE18,49N,22W	Saline	X	X		B	X		
Bloodland Lake (Ft. Wood)	L3	38.1	04,34N,11W	Pulaski	X	X		B	X		
Blue Mountain Lake	L1	14.0	NW SE,09,33N,5E	Madison	X	X		B		X	
Blue Springs Lake	L3	642.0	33 ,49N,31W	Jackson	X	X		A	X		
Blues Pond	L3	10.0	09,37N,08W	Phelps	X	X		B	X		

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Bluestem Lake	L3	13.0	22,47N,31W	Jackson	X	X		B	X		
Bo Co Mo Lake	L3	140.0	NW NE10,49N,13W	Boone	X	X		B	X		
Bodarc Lake	L3	13.0	23,47N,31W	Jackson	X	X		B	X		
Boggs Lake	L3	32.0	21-28,44N,05W	Gasconade	X	X		B	X		
Bonne Aqua Lake	L3	6.0	SE NE 26,38N,04E	St. Francois	X	X		B			
Bonne Terre City Lake	L3	10.0	SUR 467,37N,04E	St. Francois	X	X		B			
Bowling Green Lake - Old	L1	7.0	NE NE30,53N,02W	Pike	X	X		B		X	
Bowling Green Reservoir	L1	41.0	W NW29,53N,02W	Pike	X	X		B	X	X	
Brays Lake	L3	162.0	NE NW35,37N,08W	Phelps	X	X		B	X		
Breckenridge Lake	L1	13.0	NE SW3,57N,26W	Caldwell	X	X		B	X	X	
Brookfield Lake	L1	120.0	SE SE33,58N,19W	Linn	X	X		B		X	
Browning Lake	L3	120.0	22,25,26,27,3N,22E	Buchanan	X	X		B	X		
Bucklin Lake	L1	17.0	11,57N,18W	Linn	X	X		B		X	
Buffalo Bill Lake	L3	45.0	28,58N,31W	DeKalb	X	X		B	X		
Bull Shoals Lake	L2	9000.0	21/34,20N,15W	Ozark	X	X	X	A	X		
Burlington Lake	L3	21.0	34,57N,30W	Clinton	X	X		B			
Busch W.A.- Kraut Run Lake	L3	164.0	SUR 56 (NW NE23,46N,02E)	St. Charles	X	X		B			
Busch W.A. No. 35 Lake	L3	51.0	SUR 1669 (NE NE30,46N,03E)	St. Charles	X	X		B			
Bushwacker Lake	L3	148.0	26,34N,32W	Vernon	X	X		B	X		
Butler Lake	L1	71.0	NW NE14,40N,32W	Bates	X	X		B		X	
Butterfly Lake	L3	65.0	NW NE34,36N,07E	Ste. Genevieve	X	X		B			
C & A Lake	L3	39.0	25,51N,09W	Audrain	X	X		B			
Callaway Lake	L3	135.0	06,45N,02E	St. Charles	X	X		A	X		
Cameron Lake #1	L1	25.0	SW SW10,57N,30W	DeKalb	X	X		B	X	X	
Cameron Lake #2	L1	31.0	SW SW10,57N,30W	DeKalb	X	X		B	X	X	
Cameron Lake #3	L1	92.0	NW NE09,57N,30W	DeKalb	X	X		B	X	X	
Cameron Lake #4 (Grindstone Reservoir)	L1	173.0	NE NW 08,57N,30W	DeKalb	X	X		B		X	
Camp Solidarity Lake	L3	10.0	24,43N,02E	Franklin	X	X		B	X		
Carrollton Recreation Lake	L3	61.0	SE NW07,52N,23W	Carroll	X	X		B	X		
Catclaw Lake	L3	42.0	14,47N,31W	Jackson	X	X		B	X		
Cedar Hill Lakes	L3	22.6	35,42N,03E	Jefferson	X	X		A	X		
Cedar Lake	L3	21.0	35,48N,13W	Boone	X	X		A	X		
Cedar Lake	L3	45.0	SE SE 21,37N,05E	St. Francois	X	X		A	X		
Charity Lake	L3	9.0	NW SE 1,65N,41W	Atchison	X	X		B	X		
City Lake #1 (Perry)	L1	16.0	NW NW34,54N,07W	Ralls	X	X		B		X	
City Lake #2 (Perry)	L1	7.0	NW34,54N,07W	Ralls	X	X		B		X	
City Lake Harrisonville	L1	28.0	34,45N,31W	Cass	X	X		B	X	X	
Clarence Lake #1	L1	20.0	15,57N,12W	Shelby	X	X		B	X	X	

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Clarence Lake #2	L1	31.0	15,57N,12W	Shelby	X	X		B	X	X	
Clearwater Lake	L2	1635.0	NW NE06,28N,03E	Wayne/Reynolds	X	X		A	X		
Cleveland Reservoir	L1	10.0	29,45N,33W	Cass	X	X		B		X	
Clover Dell Park Lake	L3	10.0	13,45N,22W	Pettis	X	X		B	X		
Cole Lake	L3	40.0	SE10,38N,04E	Jefferson	X	X		A	X		
Conner O. Fewell C.A. Lakes	L3	14.0	32,43N,25W	Henry	X	X		B	X		
Cool Valley Lake	L3	19.0	09,40N,02E	Franklin	X	X		B	X		
Cooley Lake	L3	380.0	02,03,11, 51N,30W	Clay	X	X		B			
Coot Lake	L3	20.0	22,47N,31W	Jackson	X	X		B	X		
Cosmo-Bethel Lake	L3	6.0	NW36,48N,13W	Boone	X	X		B			
Cottontail Lake	L3	22.0	14,47N,31W	Jackson	X	X		B	X		
Council Bluff Lake	L3	423.0	23,35N,01E	Iron	X	X		A	X		
Crane Lake	L3	109.0	W33,32N,04E	Iron	X	X		B	X		
Creighton Lake	L1	18.0	NW SE,14,43N,29W	Cass	X	X		B		X	
Crescent Lake	L3	8.0	NE 02,41N,01W	Franklin	X	X		B	X		
Creve Coeur Lake	L3	327.0	20,46N,05E	St. Louis	X	X		B	X		
Crowder St. Park Lake	L3	18.0	12,61N,25W	Grundy	X	X		A			
Crystal Lake	L3	122.0	NW SW32,53N,29W	Ray	X	X		A	X		X
Cut-off Lake	L3	148.5	01,12,57N,36W	Buchanan	X	X		B			
Cut-off Lake	L3	674.0	26,27,34,35,53N,19W	Chariton	X	X		B			
D.C. Rogers Lake	L1	195.0	NW NW10,50N,16W	Howard	X	X		B	X	X	
Davis Lake	L3	44.0	NE NW15,50N,16W	Howard	X	X		B			
Dearborn Reservoir	L1	7.0	31,55N,34W	Buchanan	X	X		B	X	X	
Deer Ridge Community Lake	L3	39.0	18,62N,08W	Lewis	X	X		B	X		
Dexter City Lake	L3	11.0	22,25N,10E	Stoddard	X	X		B			
DiSalvo Lake	L3	210.0	SW NE19,35N,04E	St. Francois	X	X		B	X		
Downing Reservoir	L1	22.9	SW SE17,66N,13W	Schuyler	X	X		B		X	
Drexel City Reservoir South	L1	51.0	7,42N,33W	Bates	X	X		B		X	
Drexel Lake	L1	28.0	6, 42N,33W	Bates	X	X		B		X	
Duck Creek	L3	1730.0	31,28N,09E; 5, 27N, 9E	Wayne	X	X		B	X		
Eagle Sky Lake	L3	62.0	NW NW35,30N,04E	Wayne	X	X		B	X		
Eagleville Lake	L1	40.0	33,66N,27W	Harrison	X	X		A	X	X	
East Arrowhead Lake	L3	55.0	SE SE18,23N,08W	Howell	X	X	X	A			
Edina Lake	L1	9.0	07,62N,11W	Knox	X	X		B	X	X	
Edina Reservoir	L1	51.0	12,62N,11W	Knox	X	X		B	X	X	
Edwin A Pape Lake	L1	272.5	20,48N,24W	Lafayette	X	X		B	X	X	
Ella Ewing Community Lake	L3	15.0	21,64N,10W	Scotland	X	X		A	X		
Elmwood City Lake	L1	197.0	NW 35,63N,20W	Sullivan	X	X		B		X	
Elsie Lake	L3	17.0	30,37N,02E	Washington	X	X		A	X		

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Ethel Lake	L1	23.0	NE NW36,59N,17W	Macon	X	X		B		X	
Ewing Lake	L1	43.0	06,60N,07W	Lewis	X	X		B	X	X	
Fawn Lake	L3	26.0	13,43N,02W	Franklin	X	X		B	X		
Fellows Lake	L1	800.0	NW NE22,30N,21W	Greene	X	X		A	X	X	
Finger Lakes	L3	118.0	19,30,31,50N,12W,24,25,36,50N 13W	Boone	X	X		A			
Flight Lake	L3	100.0	26,36N,32W	Vernon	X	X		B			
Forest Lake	L1	580.0	SE SW14,62N,16W	Adair	X	X		A		X	
Fountain Grove Lakes	L3	1366.3	35,57N,22W	Linn	X	X		B	X		
Fourche Lake	L3	49.0	22,23N,01W	Ripley	X	X		A	X		
Fox Valley Lake	L3	89.0	27,66N,08W	Clark	X	X		B	X		
Foxboro Lake	L3	22.0	14,42N,04W	Franklin	X	X		B	X		
Fredricktown City Lake	L1	80.0	06,33N,07E	Madison	X	X		B		X	
Freeman Lake	L1	13.0	SW SW18,44N,32W	Cass	X	X		B		X	
Frisco Lake	L3	5.0	SE SE 02,37N,08W	Phelps	X	X		B			
Garden City Lake	L1	26.0	31,44N,29W	Cass	X	X		B		X	
Garden City New Lake	L1	39.0	NW18,43N,29W	Cass	X	X		B		X	
Gerald City Lake	L3	5.0	12,42N,04W	Franklin	X	X		B			
Glover Spring Lake	L3	23.0	13,47N,09W	Callaway	X	X		B			
Golden Eagle Lake	L3	105.0	SE SW16,48N,04W	Montgomery	X	X		B			
Goose Creek Lake	L3	308.3	NW NW25,38N,06E	Ste. Genevieve/St. Francois	X	X		A	X		
Gopher Lake	L3	38.0	23,47N,31W	Jackson	X	X		B	X		
Gower Lake	L1	11.0	10,55N,33W	Clinton	X	X		B		X	
Green City Lake	L1	57.0	SE NE16,63N,18W	Sullivan	X	X		B		X	
Green City Lake (Old)	L1	60.0	SE18,63N,18W	Sullivan	X	X		A		X	
Hager Lake	L3	9.0	SUR 2969,35N,05E	St. Francois	X	X		B			
Hamilton Lake	L1	80.0	SW SW15,57N,28W	Caldwell	X	X		B	X	X	
Harmony Mission Lake	L3	96.0	15,38N,32W	Bates	X	X		B	X		
Harrison County Lake	L1	280.0	17/30,65N,28W	Harrison	X	X		B		X	
Harrisonville City Lake	L1	419.0	SW SW26,46N,31W	Cass	X	X		B	X	X	
Hazel Creek Lake	L1	453.0	SW SW31,64N,15W	Adair	X	X		B		X	
Hazel Hill Lake	L3	62.0	27,47N,26W	Johnson	X	X		B	X		
Helvey Park Lake	L1	11.0	26,53N,33W	Clay	X	X		B		X	
Henke Lake	L3	70.0	SE SE20,46N,09W	Callaway	X	X		B			
Henry Sever Lake	L3	158.0	NE NE14,60N,10W	Knox	X	X		A	X		
Hermit Hollow Lake	L3	8.0	29,44N,02E	Franklin	X	X		B	X		
Hi Point Lake	L3	3.0	24,39N,01E	Washington	X	X		B			

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Higbee Lake	L1	13.0	SE SW09,52N,14W	Randolph	X	X		B		X	
Higginsville Reservoir (North)	L1	47.0	NE SW04,49N,25W	Lafayette	X	X		B	X	X	
Higginsville Reservoir (South)	L1	147.1	SW NE09,49N,25W	Lafayette	X	X		B	X	X	
Holden City Lake	L1	290.2	29,46N,28W	Johnson	X	X		B	X	X	
Holden Lake	L3	11.0	12,45N,28W	Johnson	X	X		B	X		
Holden Lake	L3	11.0	07,45N,27W	Johnson	X	X		B			
Holiday Acres Lake	L3	206.1	SE SW17,55N,14W	Randolph	X	X		B			
Horseshoe Lake	L3	56.0	15,56N,36W	Buchanan	X	X		B			
Hough Park Lake	L3	10.0	19,44N,11W	Cole	X	X		B			
Houston Lake	L3	16.0	NW 33,51N,33W	Platte	X	X		A	X		
Howell Mill Lakes	L3	97.0	17,36N,01E	Washington	X	X		A	X		
HS Truman Lake	L2	55600.0	07,40N,22W	Benton	X	X		A	X	X	
Hunnewell Lake	L3	228.0	NW SW25,57N,09W	Shelby	X	X		B	X		
Hurdland Severs Lake	L3	13.0	1,61N,13W	Knox	X	X		A	X		
Indian Creek Community Lake	L3	185.0	15/27,59N,25W	Livingston	X	X		B	X		
Indian Lake	L3	279.0	22,15,23,39N,05W	Crawford	X	X		A	X		
Iron Mtn Lake	L3	79.0	SE SW32,35N,04E	St. Francois	X	X		B	X		
Izaak Walton Lake	L3	11.0	32,36N,31W	Vernon	X	X		B	X		
Jackass Bend	L3	200.0	32,28,21-19,51N,29W	Ray/Jackson	X	X		B	X		X
Jackrabbit Lake	L3	25.0	15,47N,31W	Jackson	X	X		B	X		
Jamesport City Lake	L1	16.0	22,60N,26W	Daviess	X	X		B		X	
Jamesport Community Lake	L1	27.0	NE 20,60N,26W	Daviess	X	X		A	X	X	
Jasper Lake	L3	43.0	12,60N,06W	Lewis	X	X		A	X		
Jaycee Park Lake	L3	8.0	17,44N,12W	Cole	X	X		B			
Junges Lake	L3	37.0	10,41N,21W	Benton	X	X		A	X		
Kahrs-Boger Park Lake	L3	2.0	15,44N,20W	Pettis	X	X		B	X		
Kellogg Lake	L3	22.0	34,29N,31W	Jasper	X	X		A	X		
King City Lake (South)	L1	29.0	SW SW34,61N,32W	Gentry	X	X		B		X	
King City New Reservoir	L1	25.4	28,61N,32W	Gentry	X	X		B		X	
King City Old Reservoir	L1	12.0	SW NE28,61N,32W	Gentry	X	X		B		X	
King Lake	L3	204.0	13,60N,32W	DeKalb	X	X		A	X	X	
Kiwanis Lake	L3	4.0	SW23,51N,9W	Audrain	X	X		B			
Klontz Lake	L3	14.0	02,39N,04W	Crawford	X	X		A	X		
Knob Noster St. Park Lakes	L3	24.0	29/30,46N,24W	Johnson	X	X		B			
L. Prairie Comm. Lake	L3	95.0	SE SE21,38N,7W	Phelps	X	X		B	X		
La Plata Lake - New	L1	81.0	NW 14,60N,14W	Macon	X	X		B		X	
La Plata Lake - Old	L1	22.0	09,60N,14W	Macon	X	X		B		X	
Labelle Lake #1	L1	18.0	16,61N,09W	Lewis	X	X		B	X	X	
Labelle Lake #2	L1	98.0	NW NE16,61N,09W	Lewis	X	X		B	X	X	

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Lake Allaman	L3	6.0	NE 24,56N,30W	Clinton	X	X		A	X		
Lake Annette	L3	65.0	01,44N,33W	Cass	X	X		B	X		
Lake Arrowhead	L3	101.0	18,54N,30W	Clinton	X	X		A	X		
Lake Arrowhead	L3	23.0	NW NE 31, 42N, 2E	Franklin	X	X		A	X		
Lake Briarwood	L3	69.0	SW NE33,40N,04E	Jefferson	X	X		A	X		
Lake Champetra	L3	58.0	NW13,45N,12W	Boone	X	X		A	X		
Lake Cherokee	L3	6.0	14,36N,03E	Washington	X	X		B	X		
Lake Contrary	L3	291.0	26,27,35,57N,36W	Buchanan	X	X		A	X		
Lake Fond du Lac	L3	24.0	SUR 3011,43N,05E	Jefferson	X	X		A	X		
Lake Forest	L3	81.0	SUR 2046,38N,07E	Ste. Genevieve	X	X		B			
Lake Girardeau	L3	144.0	SW SW09,30N,11E	Cape Girardeau	X	X		B	X		
Lake Jacomo	L3	998.0	NE NW11,48N,31W	Jackson	X	X		A	X		
Lake Killarney	L3	61.0	NW NW01,33N,04E	Iron	X	X		A	X		
Lake Lacawanna	L3	10.0	SE SE 11,38N,05E	St. Francois	X	X		B	X		
Lake Lincoln	L3	88.0	SW SE08,49N,01E	Lincoln	X	X		A	X		
Lake Lochaweeno	L3	39.0	24,47N,08W	Callaway	X	X		A	X		
Lake Loraine	L3	37.0	SUR 1970, 41N,04E	Jefferson	X	X		A	X		
Lake Lotawana	L3	487.0	SE SE29,48N,30W	Jackson	X	X		A	X		
Lake Lucern	L3	41.0	NE SE06,46N,01W	Warren	X	X		A			
Lake Luna	L3	17.0	NE 4,44N,31W	Cass	X	X		B	X		
Lake Marie	L3	60.0	NE NW 36,66N,24W	Mercer	X	X		A			
Lake McGinness	L3	50.0	NW20,55N,30W	Clinton	X	X		B			
Lake Montowese	L3	39.0	27,43N,04E	Jefferson	X	X		A	X		
Lake Nehai Tonkayea	L3	228.0	NW NE11,55N,18W	Chariton	X	X		A			
Lake Nell	L3	24.0	22,47N,31W	Jackson	X	X		B	X		
Lake Niangua	L3	256.0	19,37N,17W	Camden	X	X		A	X		
Lake Northwood	L3	77.0	SE NE33,43N,05W	Gasconade	X	X		A			
Lake of the Oaks	L3	53.0	SE SW07,63N,06W	Clark	X	X		A	X		
Lake of the Ozarks	L2	59520.0	SE SE19,40N,15W	Camden	X	X		A	X		
Lake of the Woods	L3	3.0	NE SW 02,48N,12W	Boone	X	X		B			
Lake Paho	L3	273.0	NE SE25,65N,25W	Mercer	X	X		B			
Lake Serene	L3	59.0	NW NE03,42N,02E	Franklin	X	X		A	X		
Lake Sherwood	L3	120.0	SW SE11,45N,01W	Warren	X	X		A			
Lake Showme	L1	214.0	15,65N,12W	Scotland	X	X		B		X	
Lake Springfield	L3	293.0	19,28N,21W	Greene	X	X		B	X		X
Lake St. Clair #1	L3	52.0	SW SE02,41N,01W	Franklin	X	X		A	X		
Lake St. Louis	L3	444.0	SUR 54 (NE SW26,47N,02E)	St. Charles	X	X		A			
Lake Ste. Louise	L3	71.0	SUR 929 (SW SW27,47N,02E)	St. Charles	X	X		A			

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WATER BODY	CLASS	ACRES	LOCATION	COUNTY(IES)	LWW	AQL	CDF	WBC	SCR	DWS	IND
Lake Taneycomo	L2	2118.6	SW NE8,23N,20W	Taney	X	X	X	A	X	X	
Lake Tapawingo	L3	83.0	NE NE34,49N,31W	Jackson	X	X		A	X		
Lake Thunderbird	L3	33.0	NE,NW 5,41N,01E	Franklin	X	X		A	X		
Lake Thunderhead	L1	859.0	NE NE15,66N,19W	Putnam	X	X		A	X	X	
Lake Timber Ridge	L3	35.0	SW SE 16,43N,06W	Gasconade	X	X		A	X		
Lake Tishomingo	L3	115.0	NE SE5,41N,04E (SUR 3027)	Jefferson	X	X		A	X		
Lake Tom Sawyer	L3	4.0	04,54N,08W	Monroe	X	X		A			
Lake Torino	L3	7.0	20,42N,02E	Franklin	X	X		B	X		
Lake Tywappity	L3	43.0	SW SE08,29N,13E	Scott	X	X		A			
Lake Viking	L1	552.0	09,59N,28W	Daviess	X	X		A	X	X	
Lake Wanda Lee	L3	97.0	SUR 884, 37N, 7E	Ste. Genevieve	X	X		A			
Lake Wappapello	L2	8200.0	SE NE3,26N,07E	Wayne/Butler	X	X		A	X		
Lake Wauwanoka	L3	93.0	SE NW01,40N,04E	Jefferson	X	X		A	X		
Lake Winnebago	L3	272.0	NE NW09,46N,31W	Cass	X	X		A	X		
Lakeview Park Lake	L3	25.0	SW35,51N,09W	Audrain	X	X		B			
Lakewood Lakes	L3	279.0	NE NE07,48N,31W & SW SW 5, 48N, 31W	Jackson	X	X		A	X		
Lamar Lake	L1	148.0	SW NW32,32N,30W	Barton	X	X		B		X	
Lamine River C.A. Lakes	L3	37.0	25,26,27,36,46N,19W; 2,11,45N,19W; 7,18,45N,18W.	Cooper/Morgan	X	X		B	X		
Lancaster City Lake - New	L1	56.0	23,66N,15W	Schuyler	X	X		B		X	
Lancaster Lake - Old	L1	23.0	SW NE14,66N,15W	Schuyler	X	X		B		X	
Lane Lake	L3	10.0	32,37N,01W	Washington	X	X		A	X		
Lawson City Lake	L1	25.0	31,54N,29W	Ray	X	X		A	X	X	
Leisure Lake	L3	38.0	NE SE05,61N,25W	Grundy	X	X		A			
Leisure Lake	L3	45.0	33,48N,08W	Callaway	X	X		A	X		
Lewis & Clark Lake	L3	403.0	27,28,33,55N,37W	Buchanan	X	X		A	X		
Lewis Lake	L3	6.0	SE, NE 10,26N,11E	Stoddard	X	X		B			
Lewistown Lake	L1	35.0	NW SW08,61N,08W	Lewis	X	X		B	X	X	
Liberty Park Lake	L3	1.0	04,45N,21W	Pettis	X	X		B			
Limpp Community State Lake	L3	27.0	29,61N,32W	Gentry	X	X		B	X		
Linneus Lake	L1	17.0	NE SW36,59N,21W	Linn	X	X		B	X	X	
Lions Lake	L3	11.0	16,44N,01W	Franklin	X	X		B	X		
Lions Lake	L3	8.0	SW SE 26,46N,26W	Johnson	X	X		B	X		
Lisle Pond	L3	22.0	05,43N,33W	Cass	X	X		B	X		
Little Compton Lake	L3	36.0	29/32,55N,21W	Carroll	X	X		B	X		
Little Dixie Lake	L3	176.0	SW SE26,48N,11W	Callaway	X	X		B	X		
Loch Leonard	L3	27.0	SE18,46N,30W	Cass	X	X		B	X		
Loggers Lake	L3	21.0	10,15,31N,03W	Shannon	X	X		A	X		

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Lone Jack Lake	L3	31.0	11,47N,30W	Jackson	X	X		B	X		
Lone Tree Lake	L3	21.0	N NE15,46N,6W	Montgomery	X	X		B	X		
Lonedell Lake	L3	40.0	16,40N,02E	Franklin	X	X		B	X		
Long Branch Lake	L2	2686.0	NW18,57N,14W	Macon	X	X		A	X	X	
Long Lake	L3	10.0	NW NW 03,25N,12E	Stoddard	X	X		B			
Longview Lake	L2	953.0	04,47N,32W	Jackson	X	X		A	X		
Lost Valley Lake	L3	37.0	SE NE17,43N,04W	Gasconade	X	X		A	X		
Lower Taum Sauk Lake	L3	200.0	33,33N,02E	Reynolds	X	X		B	X		
Lucky Clover Lake	L3	20.0	20,38N,04W	Crawford	X	X		A	X		
Mac Lake - Ziske	L3	28.0	SW NE 17,34N,05W	Dent	X	X		B	X		
Macon Lake	L3	189.0	SE NW17,57N,14W	Macon	X	X		B		X	
Malta Bend Comm. Lake	L3	4.0	25,51N,23W	Saline	X	X		B	X		
Manito Lake	L3	77.0	08,09,44N,17W	Moniteau	X	X		B	X		
Maple Leaf Lake	L3	127.0	04,48N,26W	Lafayette	X	X		B	X		
Marais Temps Clair	L3	725.7	19,48N,06E and 24,48N,5E	St. Charles	X	X		B	X		
Marceline City Lake (New)	L1	200.0	SW SE14,56N,19W	Chariton	X	X		B		X	
Marceline Reservoir	L1	68.0	SE 28,57N,18W	Linn	X	X		B		X	
Mark Twain Lake	L2	18132.0	26,55N,07W	Ralls	X	X		A	X	X	
Marshall Habilitation Center Lake	L3	10.0	11,50N,21W	Saline	X	X		B	X		
Martin Lakes	L3	17.0	11,26N,11E	Stoddard	X	X		B			
Maysville Lake	L1	27.0	NE NE 4, 58N,31W	DeKalb	X	X		B	X	X	
Maysville Lake	L1	12.0	NW NE03,58N,31W	DeKalb	X	X		B	X	X	
McCormack Lake	L3	9.0	NW SW 24,25N,04W	Oregon	X	X		A	X		
McDaniel Lake	L1	218.0	NE SE26,30N,22W	Greene	X	X		B		X	
Melody Lake	L3	32.0	27,42N,03W	Franklin	X	X		A	X		
Memphis Reservoir	L1	39.0	NE NE14,65N,12W	Scotland	X	X		B		X	
Middle Fork Water Comp.	L1	103.0	NW SW06,63N,31W	Gentry	X	X		B	X	X	
Milan Lake North	L1	13.0	SE SE02,62N,20W	Sullivan	X	X		B		X	
Milan Lake South	L1	37.0	SE SE,02,62N,20W	Sullivan	X	X		B		X	
Mineral Lake	L3	8.0	01,42N,03W	Franklin	X	X		B	X		
Monopoly Lake	L3	1045.0	30,27N.08E	Stoddard/Wayne	X	X		B	X		
Monroe City Lake	L1	94.0	SW,NE,34,56N,07W	Ralls	X	X		A	X	X	
Monroe City Lake A	L1	17.0	NW NW13,56N,08W	Monroe	X	X		B		X	
Monroe City Lake B	L1	55.0	30,56N,07W	Monroe	X	X		B	X	X	
Monsanto Lake	L3	18.0	19, 20,36N,05E	St. Francois	X	X		A	X		
Montrose Lake	L3	1444.0	NE NW33,41N,27W	Henry	X	X		B			X
Mozingo Lake	L1	898.0	13,64N,35W	Nodaway	X	X		B	X	X	
New Cambria Lake	L1	9.0	SW NE07,57N,16W	Macon	X	X		B		X	
Nims Lake	L3	251.0	SW NW24,34N,06E	Madison/St. Francois	X	X		A			

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Noblett Lake	L3	26.0	25,26N,11W	Douglas	X	X		A			
Nodaway Lake	L3	73.0	SW NE20,65N,35W	Nodaway	X	X		B	X		
Norfork Lake	L2	1000.0	21N,12W	Ozark	X	X		A	X		
North Bethany City Reservoir	L3	78.0	SE27,64N,28W	Harrison	X	X		A	X		
North Lake	L3	19.0	SW NE28,45N,31W	Cass	X	X		B	X		
North Sever Lake	L3	12.5	20,63N,11W	Knox	X	X		B	X		
O'Brian Lake	L3	50.0	NW NW19,47N,01E	St. Charles/Warren	X	X		B			
Odessa Lake	L1	87.0	NW NE15,48N,28W	Lafayette	X	X		B	X	X	
Odessa Lake (Old)	L1	22.0	NW NW14,48N,28W	Lafayette	X	X		B		X	
Old Bethany City Reservoir	L1	18.0	02,63N,28W	Harrison	X	X		B		X	
Old Mud Lake	L3	126.0	16,20,21, 56N,36W	Buchanan	X	X		B			
Old Plattsburg Lake	L1	15.0	13,55N,32W	Clinton	X	X		B		X	
Opossum Hollow Lake	L3	63.0	SW NE29,39N,03W	Crawford	X	X		A	X		
Oscie Ora Acres Lake	L3	50.0	SE NW10,28N,33W	Jasper	X	X		B			
Otter Lake	L3	250.0	17,24N,09E	Stoddard	X	X		B	X		
Painted Rock Lake	L3	5.0	11,42N,11W	Osage	X	X		B			
Palmer Lake	L3	102.0	22,36N,01E	Washington	X	X		A	X		
Panther Creek D-1 Lake	L3	28.0	32,65N,26W	Harrison	X	X		B			
Parker Lake #1	L3	20.0	SE SE 31,35N,09E	Perry	X	X		A			
Parker Lake #2	L3	80.0	NE SW32,35N,09E	Perry	X	X		A			
Parole Lake	L3	42.0	07,36N,01E	Washington	X	X		A	X		
Paul Herring Lake	L3	44.0	NW SW17,46N,09W	Callaway	X	X		B			
Peabody Wildlife Area Lakes	L3	36.0	04/09,38N,32W	Bates	X	X		B	X		
Peaceful Valley Lake	L3	158.0	NE NE25,42N,06W	Gasconade	X	X		A			
Peculiar Lake	L1	25.0	SE SW22,45N,32W	Cass	X	X		B		X	
Penn's Pond Lake	L3	8.0	06,34N,11W	Pulaski	X	X		B	X		
Perco Lakes	L3	21.7	SW5, NW8 ,34N,10E	Perry	X	X		B			
Perry C.A. Lakes	L3	16.4	28.33.34.36.48N,24W;30,48N,23 W	Johnson	X	X		B	X		
Perry County Community Lake	L3	89.0	SW NE22,35N,10E (SUR 856)	Perry	X	X		B			
Pershing St. Park Lakes	L3	12.0	2,11,57N,21W	Linn	X	X		A			
Peters Lake	L3	62.0	NW NW4,50N,16W	Howard	X	X		B	X		
Pike Lake	L3	17.0	02,59N,25W	Livingston	X	X		A	X		
Pinewoods Lake	L3	22.0	07,26N,03E	Carter	X	X		B	X		
Pinnacle Lake	L3	115.0	SE NE24,47N,05W	Montgomery	X	X		A			
Plattsburg 6 Mi. Lane Lk.	L3	57.0	SW SE11,55N,32W	Clinton	X	X		B		X	
Pleasant Hill Lake	L1	91.0	SW SE01,46N,31W	Cass	X	X		B	X	X	
Plover Lake	L3	14.0	15,47N,31W	Jackson	X	X		B	X		

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Poague C.A. Lakes	L3	80.0	19,30,42N,26W, 24,42N,27W	Henry	X	X		B	X		
Pomme de Terre Lake	L2	7820.0	SW NE2,36N,22W	Hickory/Polk	X	X		A	X		
Pony Express Lake	L3	240.0	NE 33,58N,31W	DeKalb	X	X		A	X		
Port Hudson Lake	L3	48.0	16,43N,03W	Franklin	X	X		B	X		
Port Perry Lake	L3	155.0	NE SE08,34N,09E	Perry	X	X		B			
Potosi Lake	L3	20.0	SW NW 35,37N,03E	Washington	X	X		A	X		
Prairie Home C.A. Lakes	L3	20.0	4,5,6,46N,15W	Cooper/Moniteau	X	X		B			
Prairie Lee Lake	L3	144.0	NE SW27,48N,31W	Jackson	X	X		A	X		
Primrose Lake	L3	33.0	23,38,04E	St. Francois	X	X		B	X		
Radio Springs Lake	L3	8.0	08,35N,31W	Vernon	X	X		B	X		
Railroad Lake	L3	8.0	34,45N,15W	Moniteau	X	X		B	X		
Raintree Lake	L3	248.1	06,46N,31W	Cass	X	X		A	X		
Raintree Plantation Lake	L3	115.0	29,41N,04E	Jefferson	X	X		A	X		
Ray County Community Lake	L3	23.0	13,52N,28W	Ray	X	X		A	X		
Raymond Claus Lake	L3	8.7	SE SE17,27N,11E	Stoddard	X	X		B			
Rice Lake East	L3	11.0	09,27N,11E	Stoddard	X	X		B			
Rinquelin Trail Community Lake	L3	27.0	NE 29,39N,11W	Maries	X	X		B	X		
Ripley Lake	L3	18.0	10,23N,01E	Ripley	X	X		A	X		
Riss Lake	L3	134.0	SW SW25,51N,33W	Platte	X	X		B	X		
Roach Lake	L3	106.0	30,57N,23W	Livingston	X	X		A	X		
Robert G. Delaney Lake	L3	110.0	30,27N,16E	Mississippi	X	X		B			
Roby Lake	L3	10.0	34/35,33N,11W	Texas	X	X		A	X		
Rock House Lake	L1	62.0	NE SW 36,65N,27W	Harrison	X	X		A	X	X	
Rocky Fork Lake	L3	60.0	NW SE31,50N,12W	Boone	X	X		B			
Rocky Hollow Lake	L3	20.0	SE33,53N,30W	Clay	X	X		B	X		
Rothwell Lake	L3	27.0	SE NE03,53N,14W	Randolph	X	X		B	X	X	
Salisbury City Lake (Pine Ridge Lake)	L3	25.0	15,53N,17W	Chariton	X	X		B	X		
Savannah City Reservoir	L1	20.0	07,59N,35W	Andrew	X	X		A	X	X	
Sayersbrook Lake	L3	36.0	NE SE28,38N,01E	Washington	X	X		B			
Schell Lake	L3	371.0	SE NE06,37N,28W	St. Clair/Vernon	X	X		A	X		
Schuyler Co. PWSD #1 Lake	L1	33.0	SE SE04,64N,015W	Schuyler	X	X		B		X	
Scioto Lake	L3	5.0	NE NE 30,38N,06W	Phelps	X	X		B			
Sears Community Lake	L3	32.0	18,63N,19W	Sullivan	X	X		A	X		
See Tal Lake	L3	11.0	NW NW01,45N,05W	Gasconade	X	X		B			
Sequiota Park Lake	L3	3.0	09,28N,21W	Greene	X	X		B			
Settles Ford C.A. Lakes	L3	968.0	33,43N,29W;4,5,8-10,15-18,42N, 29W;13,42N,30W	Bates	X	X		B	X		
Seven Springs Lake	L3	18.0	23-24,36N,06W	Phelps	X	X		A	X		
Shawnee Lake - Turner	L3	15.0	SW NW 17,34N,05W	Dent	X	X		B	X		

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Shelbina Lake	L1	45.0	NE SW20,57N,10W	Shelby	X	X		B	X	X	
Shelbyville Lake	L1	32.0	SE SE19,58N,10W	Shelby	X	X		B	X	X	
Shepard Mountain Lake	L1	21.0	01,33N,03E	Iron	X	X		B	X	X	
Silver Lake	L3	54.0	SW SW16,46N,32W	Cass	X	X		B	X		
Silver Lake-Levee 3	L3	2464.0	06,55N,20W	Chariton	X	X		B			
Sims Valley Community Lake	L3	42.0	17,20,27N,08W	Howell	X	X		A	X		
Smithville Lake	L2	7190.0	E SW13,53N,33W	Clay	X	X		A	X	X	
Snow Hollow Lake	L3	31.0	26/27,34N,03E	Iron	X	X		B	X		
South Pool-Levee 3	L3	263.0	1,2,11,12,13,55N,21W	Chariton	X	X		B			
Spencer Lake	L3	7.0	NW19,66N,14W	Schuyler	X	X		B			
Sportsman Lake	L1	7.0	NE SE,04,49N,06W	Montgomery	X	X		B		X	
Spring Fork Lake	L1	178.0	NE SW21,44N,21W	Pettis	X	X		B	X	X	
Spring Lake	L3	87.0	10,61N,16W	Adair	X	X		A			
Squaw Creek NWR Pools	L3	1230.0	36,61N,39W	Holt	X	X		B			
Sterling Price Community Lake	L3	23.0	17,53N,17W	Chariton	X	X		A	X		
Stockton Lake	L2	23680.0	NE NE15,34N,26W	Cedar	X	X		A		X	
Strobel Lake	L3	33.0	SW SW 01,27N,09E	Stoddard	X	X		B			
Sugar Creek Lake	L1	308.0	NE SE16,54N,14W	Randolph	X	X		B		X	
Sullivan City Lake	L3	5.0	NE NW 20,40N,02W	Crawford	X	X		B			
Summerset & Fisherman's Lakes	L3	75.0	SW15,39N,04E	Jefferson	X	X		A	X		
Sunfish Lake	L3	27.0	SUR 3097, 155, 1840, 47N,07E	St. Louis	X	X		B	X		
Sunnen Lake	L3	206.0	SW SE04,37N,01E	Washington	X	X		A			
Sunrise Lake	L3	21.0	NE SW 36,39N,04E	Jefferson	X	X		A	X		
Sunset Lake	L3	50.2	NW SE33,39N,07E	Ste. Genevieve	X	X		B			
Sunset Lake	L3	6.0	13,44N,12W	Cole	X	X		B			
Sunshine Lake	L3	500.0	19,29,32,51N,27W	Ray	X	X		A	X		X
Swan Lake-Levee 5	L3	1425.0	10,55N,21W	Chariton	X	X		B			
Table Rock Lake	L2	41747.0	SW NW22,22N,22W	Stone	X	X		A	X		
Tarsney Lake	L3	17.0	SE SE22,48N,30W	Jackson	X	X		A	X		
Tea Lake No. 1	L3	25.0	08,41N,04W	Gasconade	X	X		B	X		
Teal Lake	L3	84.0	NE SW36,51N,09W	Audrain	X	X		B	X		
Tebo Freshwater Lake	L3	250.0	SW SW25,43N,25W	Henry	X	X		B			
Ten Mile Pond	L3	70.0	07,04,03,24N,16E	Mississippi	X	X		B			
Terre Du Lac Lakes	L3	371.4	(18,19,20,28,29,30,31)37N,4E,25 ,37N,3E	St. Francois	X	X		A	X		
Thomas Hill Reservoir	L2	4400.0	NE SE24,55N,16W	Randolph	X	X		A		X	X
Timberline Lakes	L3	51.0	23,24,38N,04E	St. Francois	X	X		A	X		
Tobacco Hills Lake	L3	16.0	NW11,53N,35W	Platte	X	X		B	X		

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Tom Bird Blue Hole	L3	6.0	29,27N,18E	Mississippi	X	X		B			
Trenton Lake Lower	L1	103.0	SW 15,61N,24W	Grundy	X	X		B		X	
Trenton Lake Upper	L1	68.0	NE SE15,61N,24W	Grundy	X	X		B		X	
Twin Borrow Pits	L3	44.0	13,20N,13E	Pemiscot	X	X		B	X		
Twin Lake	L3	49.0	NW NW31,66N,23W	Mercer	X	X		B			
Twin Lakes	L3	22.9	SW SW,22,48N,13W	Boone	X	X		A	X		
Union City Lake	L3	5.0	27,43N,01W	Franklin	X	X		B			
Unionville (Old) Lake	L1	13.0	34,66N,19W	Putnam	X	X		A	X	X	
Unionville Reservoir	L3	74.0	27,66N,19W	Putnam	X	X		B			
Unity Village Lake #1	L1	16.0	25,48N,32W	Jackson	X	X		B	X	X	
Unity Village Lake #2	L1	26.0	24,48N,32W	Jackson	X	X		B	X	X	
Valle Lake	L3	42.0	31,39N,05E	Jefferson	X	X		A	X		
Van Meter St. Park Lake	L3	8.0	24,52N,22W	Saline	X	X		A	X		
Vandalia Community Lake	L3	35.0	SE35,52N,06W	Audrain	X	X		B			
Vandalia Reservoir	L1	28.0	NE NE12,53N,05W	Pike	X	X		B	X	X	
Wahoo Lake	L3	10.0	14,38N,04E	St. Francois	X	X		B	X		
Wakonda Lake	L3	78.0	13,14,60N,06W	Lewis	X	X		A	X		
Walt Disney Lake	L3	19.0	31,57N,18W	Linn	X	X		A			
Water Works Lake	L1	22.0	NE SE 03,53N,14W	Randolph	X	X		B	X	X	
Watkins Mill Lake	L3	87.0	NW 22,53N,30W	Clay	X	X		A	X		
Waukomis Lake	L3	76.0	SW 17,51N,33W	Platte	X	X		A	X		
Weatherby Lake	L3	185.0	SW SE15,51N,34W	Platte	X	X		A	X		
Wellsville City Lake	L1	12.0	NW SE 33,50N,06W	Montgomery	X	X		A		X	
West Arrowhead Lake	L3	58.0	18,23N,08W	Howell	X	X	X	B	X		
Whetstone Creek C.A. Lakes	L3	62.0	5,6,8,9,48N,07W; 31,32,49N 7W	Callaway	X	X		B	X		
Whispering Valley Lakes	L3	30.0	35,44N,03W	Franklin	X	X		A	X		
WhitesideLake White Memorial SWA	L3	28.0	SW SUR 1686,51N,01W	Lincoln	X	X		B	X		
Wildwood Lake	L3	17.0	NE 09,48N,32W	Jackson	X	X		B			
Willow Brook Lake	L1	53.0	SE NE 04,58N,13W	DeKalb	X	X		B		X	
Willow Lake	L3	29.0	27-34,34N,32W	Vernon	X	X		B	X		
Willowwood Lake	L3	45.0	26 & 35,48N,05E	St. Charles	X	X		B	X		
Windsor City Lake	L3	16.0	06,43N,23W	Pettis	X	X		B			
Winegar Lake	L3	8.0	18,43N,13W	Cole	X	X		B			
Wing Lake	L3	19.9	NW SW 14, 35N,03E	Washington	X	X		A	X		
Wolf Bayou Mud Bayou	L3	37.0	04,19N,13E	Pemiscot	X	X		B	X		
Worth County Community Lake	L3	17.0	32,65N,32W	Worth	X	X		B	X		
Wyaconda Lake	L1	9.0	NW NW33,65N,09W	Clark	X	X		B	X	X	

LWW-Livestock and Wildlife Watering
AQL-Protection of Warm Water Aquatic Life and Human Health-Fish Consumption
CDF-Cold Water Fishery
WBC-Whole Body Contact Recreation
SCR-Secondary Contact Recreation
DWS-Drinking Water Supply
IND-Industrial