NATURAL RESOURCES COMMISSION

Information Bulletin #1 (~~Sixth~~ Seventh Amendment)

SUBJECT: Establishment of Division of Hearings; Indexing of Final Adjudicative Agency Decisions; Transcript Fees

ESTABLISHMENT OF THE DIVISION OF HEARINGS

The Department of Natural Resources (DNR) is among state agencies that are governed by IC 4-21.5 (sometimes called the "administrative orders and procedures act" or "AOPA"). The Natural Resources Commission (Commission), through its AOPA Committee or one of its administrative law judges, serves as the "ultimate authority" for DNR under AOPA. IC 14-10-2-3, IC 14-34-2-2, and 312 IAC 3. A Commission administrative law judge serves as the ultimate authority for the Board of Licensure for Professional Geologists and the Board of Registration for Soil Scientists. The Commission also adopts permanent rules that apply to responsibilities and functions of the DNR. IC 14-10-2-4 and IC 14-10-2-7.

By resolution on January 25, 1990, the Commission established its Division of Hearings. As required by statute, the resolution was approved by the Governor on April 27 and became effective on July 1, 1990. The resolution provided in part:

> The division of hearings is established, under the natural resources commission, to be coordinated by the chief administrative law judge: (1) to conduct hearings and proceedings relative to [AOPA], the rule adoption act, the conservancy district act, and as otherwise specified by the commission; and (2) to provide assistance to the commission and the other boards of the department in seeking to conform with the legal requirements for the conduct of their meetings.

P.L.28-1990 originally provided that hearing processes under AOPA and for permanent agency rules were the responsibility of the Commission and its "division of hearings". IC 14-3-3 before its repeal. Following recodification, the Division of Hearings and its administrative law judges are governed by IC 14-10-2-2.

The offices of the Division of Hearings are located at the Indiana Government Center North, 100 North Senate Avenue, Room N103, Indianapolis, Indiana 46204-2273. The telephone number is (317) 232-4699.

INDEXING OF FINAL ADJUDICATIVE AGENCY DECISIONS

AOPA provides in IC 4-21.5-3-32 that an agency shall index and make available all written final orders for public inspection and copying. In addition to providing better communications to the regulated public, this provision acknowledges an agency may utilize some indexed orders as precedent.

The Division of Hearings maintains a database on the Commission's website called "CADDNAR". Accessible through CADDNAR are Commission decisions issued following the completion of a contested proceeding, including those resulting from (1) hearing; (2) summary judgment; or, (3) involuntary dismissal, if a noteworthy point of law is considered. CADDNAR has included these Commission decisions since 1978 when the agency began regularly assigning proceedings to administrative law judges. Histories are provided for decisions taken on judicial review to a circuit or superior court or on appeal. CADDNAR is searchable at:

~~http://www.in.gov/nrc/2369.htm~~ **https://www.in.gov/nrc/aopa-committee/caddnar/**

In a resolution approved on November 22, 1988, the Commission adopted CADDNAR as the agency index for public inspection under IC 4-21.5-3-32(b) for agency actions and specified that Commission decisions in CADDNAR may be relied upon in a proceeding under AOPA.

Use of CADDNAR was first acknowledged by the Indiana Court of Appeals in Peabody Coal v. Indiana DNR, 692 N.E.2d 925 (1994 Ind. App.). Subsequent reported decisions have also acknowledged CADDNAR.

FINAL ORDERS ADOPTING PARTIES' AGREEMENTS AND SETTLEMENTS

Upon the agreement of the parties, the Commission may direct terms of an agreed order adopted as a Commission final order to be included in CADDNAR as an indexed decision. If, in the Commission's opinion, an agreement addresses a novel legal issue in a manner appropriate for general reliance, the Commission in its own discretion, may include the agreement in CADDNAR. An agreed order adopted as a Commission final order included in CADDNAR may be relied upon in a proceeding under AOPA.

TRANSCRIPTS

Under AOPA, "the administrative law judge shall have the hearing recorded at the agency's expense. The agency is not required, at its expense, to prepare a transcript, unless required to do so by law." IC 4-21.5-3-25(g). AOPA

also provides that the party that initiates judicial review of a final agency order is generally responsible for the costs of transcript preparation. As provided in IC 4-21.5-5-13(d), the agency "shall charge" the person seeking judicial review "with the reasonable cost of preparing any necessary copies and transcripts for transmittal to the court". The statutory subsection also clarifies that preparation costs include more than copying expenses.

The Commission adopted 312 IAC 3 to assist in its implementation of AOPA. 312 IAC 3-1-14 governs court reporters and transcripts. Subsection (c) provides, in part, that the "party who requests a transcript. . . shall pay the cost of the transcript: (1) as billed by the court reporting service; or (2) if the transcript is prepared by an employee of the [C]ommission, as determined from time to time by the [C]ommission on a per page basis after consideration of all expenses incurred in the preparation of the transcript."

The Commission, in its sole discretion, will determine periodically whether its Division of Hearings is available to prepare a transcript. The Commission, at its January 20, 2015, meeting, determined that its Division of Hearings is not available to prepare transcripts.

With respect to a transcript prepared by a court reporting service, the party requesting preparation of the transcript shall provide the Commission's Division of Hearings with the name, address, telephone number, and contact person for the party's chosen court reporting service. The Commission will provide an audio recording directly to the court reporting service for transcription at the requesting party's expense.

Administrative hearings before the Commission are recorded as required by IC 4-21.5-3-25 and 312 IAC 3-1-14 and the audio recording is an agency record under 312 IAC 3-1-17(a). To ensure the integrity of the agency record, the completed transcript must be returned directly to the Commission's Division of Hearings for review and approval as to accuracy. The Commission reserves the right to require corrections to the transcript. Following completion of the accuracy review and the making of necessary corrections to the satisfaction of the Commission's Division of Hearings, the transcript will be forwarded to the requesting party.

The Commission shall not certify any transcript prepared by a court reporting service as an official record of the proceeding unless it is reviewed and deemed to be accurately transcribed by the Commission's Division of Hearings. The Division of Hearings shall not certify a transcript as an official record of the proceeding unless the transcript includes a certification of preparation and accuracy by a court reporting service. An original transcript must be maintained as a part of the official record of the proceeding.

HISTORY

This Information Bulletin ~~#1~~ was first published in the Indiana Register on July 1, 1990 (13 IR 1938). On January 1, 2003, the Commission approved the First Amendment (26 IR 1375), noting the per-page employee transcript fee that increased from $1.60 to $3.80 and an address change for the Division of Hearings. On October 11, 2006, theCommission approved the Second Amendment (20061011-IR-312060438NRA) that included mostly technical changes. On March 20, 2012, the **Commission approved the** Third Amendment (20120321-IR-312120148NRA) ~~was approved to~~ updat~~e~~**ing** URLs for the Division of Hearings~~. The third amendment also clarified~~**, clarifying** the limited circumstance in which agreed orders may be included in CADDNAR and made other technical amendments. On September 24, 2015, **the Commission approved** the Fourth Amendment (20151007-IR-312150338NRA) ~~was approved to~~ mak~~e~~**ing** clarifications with respect to the indexing of adjudicated agency decisions and agreed orders, and **to** specify that the Division of Hearings would no longer prepare transcripts and establish processes for obtaining transcripts of adjudicatory proceedings. On May 16, 2017, **the Commission approved** the Fifth Amendment (20170524-IR-312170264NRA) ~~was approved to~~ updat~~e~~**ing** contact information for its Division of Hearings. On July 21, 2020**, the Commission approved** ~~this~~ **the** Sixth Amendment **(20200805-IR-312200405NRA),** clarifying the indexing of agreed orders and making other technical and stylistic revisions. **On xx, 2021, the Commission approved this Seventh Amendment updating URL links and making other technical amendments.**

NATURAL RESOURCES COMMISSION

Information Bulletin #3 (~~Fourth~~ Fifth Amendment)

SUBJECT: Roster of Indiana Waterways Declared Navigable or Nonnavigable

~~HISTORY:~~ ~~The original bulletin was published at 15 IR 2385 (July 1, 1992). The Natural Resources Commission in March 1997 approved a first revision (published at 20 IR 2920) that superseded the original bulletin. The second revision (20061011-IR-312060440NRA) made technical amendments correcting code citations and an Internet address. The third amendment (20080611-IR-312080426NRA) added sections of the Tippecanoe River as navigable in White County, Starke County, and Pulaski County, and corrected an Internet address. This fourthamendment updates the contact information for the Commission and its Division of Hearings and corrects an Internet address.~~
A searchable version of this bulletin is available through the Natural Resources Commission Internet Website at:

~~http://www.in.gov/nrc/2390.htm~~
https://www.in.gov/nrc/nonrule-policy-documents-npd/navigable-waterways-roster/

I. NAVIGABILITY

Property rights relative to Indiana waterways often are determined by whether the waterway is "navigable." Both common law and statutory law make distinctions founded upon whether a river, stream, embayment, or lakeis navigable.

A landmark decision in Indiana with respect to determining and applying navigability is *State v. Kivett*, 228Ind. 629, 95 N.E.2d 148 (1950). The Indiana Supreme Court stated that the test for determining navigability is whether a waterway:

> *was available and susceptible for navigation according to the general rules of river transportation at the time[1816] Indiana was admitted to the Union. It does not depend on whether it is now navigable. The true test seems to be the capacity of the stream, rather than the manner or extent of use. And the mere fact that thepresence of sandbars or driftwood or stone, or other objects, which at times render the stream unfit for transportation, does not destroy its actual capacity and susceptibility for that use.*

A modified standard for determining navigability applies to a body of water that is artificial. The test for a man-made reservoir, or a similar waterway that did not exist in 1816, is whether it is navigable in fact. *Reed v.United States*, 604 F. Supp. 1253 (1984).

The court observed in *Kivett* that *"whether the waters within the State under which the lands lie are navigableor non-navigable, is a federal"* question and is *"determined according to the law and usage recognized and applied in the federal courts, even though"* the waterway may not be "capable of use for navigation in interstate orforeign commerce." Federal decisions applied to particular issues of navigability are useful precedents, regardlessof whether the decisions originated in Indiana or another state.

The primary issue in *Kivett* was ownership of the riverbed from which the defendant was removing materials.If the waterway was navigable on the date of statehood, title to the bed of the river passed to the state of Indiana and could not ordinarily be conveyed incident to the adjoining riparian property. Also, once a waterway is found tobe navigable it remains so, even if the waterway is no longer used for purposes of commercial navigation. *United States v. United States Steel Corporation*, 482 F.2d 439 (7th Cir. 1973).

In the absence of a contrary state boundary, the appropriate line of demarcation for a navigable waterway is the ordinary high watermark. The Indiana Water Resource, Governor's Water Resource Study Commission, Stateof Indiana (Indiana Department of Natural Resources, 1980), page 107. The Natural Resources Commission has also adopted this standard by rule. 312 IAC 6-1. If not navigable, title to the bed of the river passes to the adjacentproperty owner or owners.

Ownership is not the only issue determined by whether a waterway is navigable. Public recreational and commercial usage of the surface of a river or stream often depends upon whether the water is navigable. Other legal foundations may, however, authorize public usage. A prescriptive easement may exist. A waterway may bea "public freshwater lake" subject to IC 14-26-2 and 312 IAC 11-1 through 312 IAC 11-5. Pursuant to IC 14-29-8,the Natural Resources Commission may, by rule, declare a waterway to be a "recreational stream."

State legislation also establishes regulatory functions that rest upon a determination of navigability. For example, a permit is typically required from the Indiana Department of Natural Resources before a person can

- place, fill, or erect a permanent structure in;
- remove water from; or
- remove material from;

a navigable waterway. IC 14-29 1-8 and 312 IAC 6.

Other notable regulatory standards applicable to navigable waters include IC 14-18-6 (Lake Michigan fills), IC14-29-4-5 (dedication of channels into navigable waters), IC 14-19-1-1 (general charge of Indiana navigable waters placed in DNR), and IC 14-29-3 (removal of sand and gravel from the beds of navigable waters).

II. ESTABLISHING A ROSTER

Despite the legal significance of determining whether a particular waterway is or is not navigable, a comprehensive roster of Indiana waters declared navigable has not existed. In part, this absence can be explained by the essentially judicial character of the doctrine of navigability. Since a determination of navigabilityis ultimately based upon a judicial finding which is both waterway and site specific, any roster is subject to criticism because it is incomplete.

In addition, legislative declarations have identified specific waters as being navigable (or public highways). Although most legislative declarations occurred before 1850, more recently governmental agencies have also determined questions of navigability. Notable examples include the U.S. Army Corps of Engineers, the Federal Energy Regulatory Commission, and, at the state level, the Indiana Natural Resources Commission. A determination by any of these legislative or administrative entities is subject to judicial scrutiny and modification.

Even within these limitations, a roster of waters declared navigable can be productive for efforts to regulate and manage the state's waters. With an understanding that any listing of waterways declared navigable is necessarily imperfect and subject to adjustments as new decisions are made, the roster which follows is intendedto aid in the regulatory process and in a general public awareness of waterway usage.

A few explanatory remarks are appropriate to the structure of the roster. A waterway is presumed to be navigable at all points downstream from a determination of navigability. A judicial determination as to whether aparticular water is or is not navigable generally supersedes a legislative or administrative decision. Unless otherwise refuted, a legislative determination of navigability is presumed to demonstrate historical usage of a waterway for navigation, and a later statutory repeal does not negate the navigability of the waterway.

A declaration of navigability or nonnavigability must be based upon a primary source. These primary sourcesare a declaration by a court, the legislature, or an agency with jurisdiction over navigable waters. A waterway declared by a primary source to be nonnavigable is identified in brackets. If a waterway is unlisted, no declarationof navigability or nonnavigability has been located from a primary source.

Secondary sources may be applied to determine the geographic limitations of navigability for a particular waterway. Secondary sources include courthouse records, published county histories, periodicals, newspaper articles, interviews, and similar evidence. For example, in the early 19th century, the Indiana General Assembly sometimes identified a stream as being a public highways downstream from a particular mill. Secondary sourcesare typically applied to determine where the mill is believed to have been located.

Reported state or federal court decisions are applied in seeking to resolve legal issues of navigability whichbear upon particular waters (example: where a navigable river is channelized, the new channel becomes navigable and the former channel loses its navigable character when sedimentation causes the bed to surface).Although this roster does not include citations to the authorities applied in determining navigability, these authorities can be obtained through the Indiana Natural Resources Commission **at:**

Natural Resources Commission
Division of Hearings
Indiana Government Center North
100 North Senate Avenue, Room N103
Indianapolis, IN 46204-2273**; or**

nrcrules@nrc.in.gov

III. ROSTER OF INDIANA WATERS DECLARED NAVIGABLE OR NONNAVIGABLE (LISTED BYWATERWAY NAME)

A

Anderson River (including Middle Fork): Navigable in Spencer County from its junction with the Ohio River for 28.4 river miles to the Perry-Spencer county line. The Middle Fork is navigable from its junction with the AndersonRiver for 3.3 river miles.
Armuth Ditch: See Black Creek.
Arnold Creek: Navigable in Ohio County from its junction with the Ohio River for 4.4 river miles.

B

Baker Creek: Navigable in Spencer County from its junction with Little Pigeon Creek 1.8 river miles.
Bald Knob Creek: Navigable in Perry County from its junction with Oil Creek for 0.5 river miles.
Banbango Creek: See Baugo Creek.
Baugo Creek: Navigable from its junction with the St. Joseph River in South Bend for 15.2 river miles to the mainforks (near Wakarusa).
Bayou Creek: Navigable in Vanderburgh County from its junction with the Ohio River for 1.5 river miles.
Beanblossom Creek: Navigable in Monroe County from its junction with the West Fork of the White River for 17.7 river miles to Griffy Creek.
Bear Creek: Navigable in Perry County from its junction with the Ohio River for 1.6 river miles.
Big Blue River: Navigable from its junction with Sugar Creek (to form the Driftwood River) for 55.46 river miles tothe Henry-Rush County line.
Big Blue River: See, also, Blue River.
Big Creek: Navigable in Posey County from its junction with the Wabash River for 25.4 river miles (nearCynthiana). See, also, Little Fork of Big Creek.
Big Deer Creek: See Deer Creek.
Big Indian Creek: See Indian Creek (Morgan County).
Big Oil Creek: Navigable in Perry County from its junction with the Ohio River for 10.6 river miles.
Big Poison Creek: Navigable in Perry County from its junction with the Ohio River for 6.3 river miles.
Big Raccoon Creek: Navigable from its junction with the Wabash River for 42.35 river miles to the Parke-PutnamCounty line (now Cecil M. Harden Lake). The dam for Harden Lake is located at river mile 33.7.
Big Saluda Creek: Navigable in Jefferson County from its junction with the Ohio River for 1.0 river miles.
Big Sandy Creek: See Sandy Creek.
Big Vermillion River: Navigable from its junction with the Wabash River for 10.8 river miles to the Illinois stateline. (This river is navigable to Carmargo, Illinois.)
Black Creek: Navigable from its junction with the West Fork of the White River (near Edwardsport) for 11.8 rivermiles (near Marco).
Blue River: Navigable from its junction with the Ohio River for 57.15 river miles to Fredericksburg.
Blue River: See, also, Big Blue River.
Bryant Creek: Navigable in Switzerland County from its junction with the Ohio River for 2.6 river miles.
Buck Creek: Navigable in Harrison County from its junction with the Ohio River for 5.8 river miles.
Buck Creek: Navigable in Perry County from its junction with the Ohio River for 0.7 river miles.
Buck Run: Navigable in Ohio County from its junction with the Ohio River for 1.1 river miles.
Bull Creek: Navigable in Clark County from its junction with Ohio River for 1.1 river miles.
Bull Hollow: Navigable in Perry County from its junction with Big Oil Creek for 0.7 river miles.
Burns Ditch: See Portage Burns Waterway.
Burns Waterway Harbor: Navigable as an extension of Lake Michigan for 1.3 river miles to the Little CalumetRiver.
Busseron Creek: Navigable from its junction with the Wabash River in Knox County for 20.96 river miles. A channelization and relocation of Busseron Creek is navigable from its junction with the Wabash River in SullivanCounty (near Rogers Ditch) for 2.85 river miles to its junction with the original channel.

Busserou Creek: See Busseron Creek.

C

Cagles Mill Lake: See Eel River, and see Mill Creek.
Calumet River: See Grand Calumet River; also Little Calumet River.
Calumet River Canal: See Indiana Harbor Canal.
Cammie Thomas Ditch: Navigable for 7.45 river miles as a channelization of the Muscatatuck River.
Camp Creek: Navigable in Clark County from its junction with the Ohio River for 1.7 river miles.
Caney Branch: Navigable in Perry County from its junction with Big Poison Creek for 0.2 river miles.
Caney Branch: Navigable in Perry County from its junction with Little Deer Creek for 0.8 river miles.
Caney Creek: Navigable in Spencer County from its junction with the Ohio River for 2.8 river miles.
Carman's Creek: See Turman Creek.
Cecil M. Harden Lake: See Big Raccoon Creek.
Clear Creek: Navigable in Monroe County from its junction with Salt Creek for 2.55 river miles (nearHarrodsburg).
Clear Creek: Navigable from its junction with Little Pigeon Creek for 2.4 river miles.
Clover Lick Creek: Navigable in Perry County from its junction with Big Oil Creek for 0.7 river miles.
Conns Creek: Navigable (although with private ownership of the creek bed) from its junction with the FlatrockRiver for 11.5 river miles to the Rush-Shelby county line.
Crooked Creek: Navigable in Spencer County from its junction with the Ohio River for 7.7 river miles.
Cypress Creek (including Cypress Creek Diversion Channel): Navigable in Warrick County from its junctionwith the Ohio River for 6.6 river miles. (The original bed of Cypress Creek is also navigable west of Cypress Creek Diversion Channel for 1.95 river miles, except where the creek bed has emerged and is no longer inundated.)

D

Deer Creek: Navigable in Perry County from its junction with the Ohio River for 5.9 river miles.
Driftwood River: Navigable from its junction with the East Fork of the White River (near Columbus) 15 river milesto its junction with the Big Blue River (near Edinburgh).
Dry Run Creek: Navigable in Crawford County from its junction with the Big Blue River for 1.4 river miles.

E

East Calumuck River: See Little Calumet River.
East Deer Creek: Navigable in Perry County from its junction with Deer Creek for 0.6 river miles.
East Fork of the White River: Navigable from its junction with the White River 189 river miles to its junction withthe Flatrock and Driftwood rivers (near Columbus).
East Fork of the Whitewater River: Navigable from its junction with the Whitewater River for 26.25 river miles tothe Union-Wayne county line.
Eel River: Navigable from its junction with the West Fork of the White River for 51.2 river miles to its junction withMill Creek (now within Cagles Mill Lake).
Elk Creek: Navigable in Washington County from its junction with the Cammie Thomas Ditch for 3.0 river miles.

F

Fanny Creek: Navigable in Perry County from its junction with the Ohio River for 0.8 river miles.
Fawn River: Navigable for 13.45 river miles within Indiana. The Fawn River has two navigable segments in Indiana, separated by segments in Michigan. Navigability commences at the Indiana-Michigan state line (nearGilmore Lake and two mile south of Sturgis, Michigan) and continues downstream. The Fawn River has been found to be nonnavigable at Greenfield Mills (river mile 32).
Flat Creek: Navigable from its junction with the Patoka River for 12.0 river miles (near Otwell).
Flatrock River: Navigable from its junction with the East Fork of the White River (Columbus) 93 river miles to itsuppermost point in Henry County (near Mooreland).
Fourteen Mile Creek: Navigable in Clark County from its junction with the Ohio River for 2.9 river miles.

G
Garrett Creek: Navigable in Spencer County from its junction with the Ohio River for 2.2 river miles.
Goose Creek: Navigable in Switzerland County from its junction with the Ohio River for 1.5 river miles.
Grand Calumet River: Navigable from the Illinois state line (near Hammond) for 15.4 river miles to MarquettePark. (The river is also navigable in Illinois.)
Grants Creek: Navigable in Switzerland County from its junction with the Ohio River for 2.5 river miles.
Great Miami River: Navigable for 1.4 river miles in Dearborn County. (Most of this river lies within Ohio; the Great Miami River has been determined to be navigable from its junction with the Ohio River for 117 river miles.The waterway enters Indiana at two locations.)

H
Harden Lake: See Big Raccoon Creek.
Harris Ditch: Navigable in Posey County from its junction with the Ohio River for 0.9 river miles to Little PitcherLake.
Hogan Creek (including North Fork and South Fork): (The Main Stem of) Hogan Creek is navigable in Dearborn County from the junction on the Ohio River for its entire length of 0.4 river miles. The North Fork is navigable from the junction with Hogan Creek for 4.9 river miles. The South Fork is navigable from the junctionwith Hogan Creek for 5.0 river miles.
Honey Creek: Navigable in Spencer County from its junction with the Ohio River for 1.8 river miles.
Houchins Ditch: See Patoka River.
Hurricane Fork: See Little Fork of Big Creek.

I
Independence Creek: See Indian Creek Harrison County.
Indian Creek: Navigable in Harrison County from its junction with the Ohio River for 4.8 river miles.
Indian Creek: Navigable in Martin County from its junction with the East Fork of the White River for 15.0 rivermiles to the Lawrence-Martin county line.
Indian Creek: Navigable in Morgan County from its junction with the West Fork of the White River for 3.3 rivermiles (near Martinsville).
Indian Creek: Navigable in Switzerland County from its junction with the Ohio River for 4.1 river miles.
Indian Fork: Navigable in Perry County from its junction with Big Oil Creek for 1.4 river miles.
Indian-Kentuck Creek: Navigable in Jefferson County from its mouth on the Ohio River for 3.8 river miles.
Indiana Harbor and Ship Canal (including Calumet River Canal and Lake George Canal): The (Main Stem ofthe) Indiana Harbor and Ship Canal is navigable in Lake County for 3.0 river miles from the Indiana Harbor to where it branches into the Calumet River Canal and the Lake George Canal. The portion of the Main Stem that is ordinarily referred to as the "Indiana Harbor" is lakeward of the historic shoreline of Lake Michigan and is surrounded by manmade land comprising LTV Steel and Inland Steel. The "Ship Canal" (also called the "Indiana Harbor Canal") is the portion of the Main Stem landward of the historic shoreline. The Calumet River Canal is navigable in Lake County from the Indiana Harbor Canal for 1.95 river miles to the Grand Calumet River. The Lake George Canal is navigable in Lake County from the Indiana Harbor Canal for 0.85 river miles (near WhiteOak Avenue if extended southerly).
Iroquois River: Navigable from the Indiana-Illinois state line for 39 river miles to the Dexter Ditch (near Parr).
Island Branch: Navigable in Ohio County from its junction with the Ohio River for 1.0 river miles.

J
Jackson Creek: Navigable in Spencer County from its junction with the Ohio River for 1.8 river miles.

K
Kankakee River: Navigable from the Indiana-Illinois state line for 86.3 river miles to the Indiana-Michigan stateline. (This river is also navigable downstream in Illinois.)
Kelly Bayou: Navigable in Sullivan County from its downstream junction with an oxbow of the Wabash

River for
5.8 river miles to its upstream junction with the Wabash River.
Kelly Hollow: Navigable in Perry County from its junction with Millstone Creek for 1.0 river miles.
Kemper Ditch: See Little Calumet River.
Kingly Creek: Navigable in Perry County from its junction with the Ohio River for 0.2 river miles.
Knob Creek: Navigable in Perry County from its junction with the Ohio River for 0.2 river miles.

L
Lake Drain: Navigable in Spencer County from its junction with the Ohio River for 1.6 river miles.
Lake George Canal: See Indiana Harbor Canal.
Lake Michigan: Navigable throughout Indiana.
Lancassange Creek: Navigable in Clark County from its junction with the Ohio River for 0.3 river miles.
Laughery Creek: Navigable from its junction with the Ohio River for 10.8 river miles (near Milton).
Lick Creek: Navigable in Orange County from its junction with the Lost River for 19.5 river miles to Old SpringMill (near Paoli).
Little Blue River: Navigable in Crawford County from its junction with the Ohio River (near Alton) for 10.6 rivermiles.
Little Blue River: Navigable from its junction with the Big Blue River (Shelbyville) for 25.6 river miles to itsjunction with Ball Run.
Little Calumet River: Navigable from the Indiana-Illinois state line for 21.24 river miles to Burns Waterway Harbor and navigable for an additional 17.75 river miles to its junction (as Kemper Ditch) with Interstate 94. (Theriver is also navigable in Illinois.)
Little Creek: See Little Fork of Big Creek.
Little Deer Creek: Navigable from its junction with Deer Creek for 3.9 river miles.
Little Fork of Big Creek: Navigable in Posey County from its junction with Big Creek for 5.1 river miles.
Little Oil Creek: Navigable from its junction with Big Oil Creek for 4.4 river miles.
Little Pigeon Creek: Navigable from its junction with the Ohio River for 15.8 river miles.
Little Pitcher Lake: Navigable in Posey County as an extension of Harris Ditch.
Little Raccoon Creek: Navigable in Parke County from its junction with Big Raccoon Creek for 5.3 river miles(Nevins Covered Bridge).
Little River: Navigable from its junction with the Wabash River 20.2 river miles to Ellison Road (near FortWayne).
Little Sandy Creek: Navigable in Spencer County from its junction with the Ohio River for 2.0 river miles.
Little Wabash River: See Little River.
Locust Creek: Navigable in Vanderburgh County from its junction with Pigeon Creek for 1.5 river miles.
Log Lick Creek: Navigable in Switzerland County from its junction with the Ohio River for 2.3 river miles.
Lost River: Navigable from its junction with the East Fork of the White River for 48.87 river miles (near Orangeville).

M
McFadden Creek: Navigable in Posey County from its junction with the Ohio River for 2.3 river miles.
Marble Powers Ditch: See Kankakee River.
Maumee River: Navigable from the Indiana-Ohio state line 27.05 river miles to the Hosey Dam, Fort Wayne. (Theriver is also navigable in Ohio; the river may be alternatively described as navigable to total river mile 134.9. The Indiana-Ohio state line is located at total river mile 107.85.)
Middle Fork of Anderson River: See Anderson River.
Mill Creek: Navigable from its junction with the Eel River (now Cagles Mill Lake) for 32.45 river miles to theHendricks-Morgan county line. See, also, Mill Creek Ditch.
Mill Creek: Navigable in Crawford County from its junction with the Little Blue River for 1.4 river miles.
Mill Creek Ditch: Navigable from its junction with Mill Creek upstream for 1.35 river miles to theHendricks-Morgan county line.
Millstone Creek: Navigable in Perry County from its junction with the Ohio River for 1.4 river miles.
Mississinewa River: Navigable from its junction with the Wabash River for 109.75 river miles to the Indiana-Ohiostate line.

Monroe Lake: See Salt Creek.
Mosquito Creek: Navigable in Harrison County from its junction with the Ohio River for 2.8 river miles.
Mud Creek: Navigable from its junction with Mill Creek (near Little Point) for 5.6 river miles to Tudor Road (nearHazelwood).
Muscatatuck River: Navigable from its junction with the East Fork of the White River for 24.25 river miles to the main forks. See, also, Vernon Fork of Muscatatuck River, South Fork of Muscatatuck River, and Cammie ThomasDitch.

N
Neglie Creek: Navigable in Perry County from its junction with Little Deer Creek for 0.5 river miles.
North Fork of Hogan Creek: See Hogan Creek.
North Fork of Muscatatuck River: See Vernon Fork of Muscatatuck River.
North Fork of Salt Creek: Navigable from its junction with Salt Creek for 36.7 river miles to its junction with DavidBranch (near Nashville).

O
Ohio River: Navigable throughout the state (from total river mile 491.34 to total river mile 848.0).
Oil Creek: See Big Oil Creek.

P
Patoka River: Navigable from its junction with the Wabash River for 146.6 river miles (within GreenfieldTownship, Orange County).
Pickamink River: Iroquois River.
Pigeon Creek: Navigable from its junction with the Ohio River for 5.9 river miles.
Plum Creek: Navigable in Switzerland County from its junction with the Ohio River for 2.9 river miles.
Poison Creek: See Big Poison Creek.
Portage Burns Waterway: Navigable in its entirety (1.3 river miles) as a connection between the Little CalumetRiver and Lake Michigan. (The point at which Portage Burns Waterway connects with the Little Calumet River isnow considered the separation between the East Branch and the West Branch of the Little Calumet River.)
Potato Run: Navigable in Harrison County from its junction with the Ohio River for 0.4 river miles.

R
Raccoon Creek: See Big Raccoon Creek.
Rock River: See Sugar Creek.
Rider Ditch: Navigable in Jackson County as a channelization of the Vernon Fork of the Muscatatuck River.

S
St. Joseph River: Navigable throughout Indiana (Elkhart and St. Joseph counties) for 39.57 river miles. The riverenters Indiana from Michigan and returns to Michigan. (The river is also navigable downstream in Michigan, and the river may be alternatively described as navigable from total river mile 49.93 to total river mile 89.5.)
Salt Creek: Navigable from its junction with the East Fork of the White River into Monroe Lake. See also theNorth Fork of Salt Creek.
Sample Run: Navigable in Perry County from its junction with the Ohio River for 0.2 river miles.
Sand Creek: Navigable in Switzerland County from its junction with Bryant Creek for 0.9 river miles.
Sand Run: See Sand Creek.
Sandy Creek: Navigable in Spencer County from its junction with the Ohio River for 2.6 river miles.
Silver Creek: Navigable in Clark County from its junction with the Ohio River for 3.0 river miles.
Smart Ditch: Navigable in Jackson County as a channelization of the Muscatatuck River (and the Vernon Fork ofthe Muscatatuck River).
South Fork of Big Creek: See Little Fork of Big Creek.
South Fork of Hogan Creek: See Hogan Creek.
South Fork of Muscatatuck River: Navigable from its junction with the Muscatatuck River 28.1 river

miles to itsjunction with Graham Creek.
Sugar Creek: Navigable from its junction with the Big Blue River (to form the Driftwood River) for 24.4 river miles(near Boggstown).
Sugar Creek: Navigable from its junction on the Wabash River (near West Union) for 56.83 river miles to the Montgomery-Boone county line.

T
Tanners Creek: Navigable from its junction with the Ohio River in Lawrenceburg for 10.6 river miles.
Tate's Hollow: Navigable in Perry County from its junction with the Ohio River for 0.3 river miles.
Thomas Ditch: See Cammie Thomas Ditch.
Tippecanoe River: Navigable from its junction with the Wabash River in Tippecanoe County to the PulaskiCounty–Fulton County line at river mile 86.47.
Trail Creek: Navigable in LaPorte County from its junction with Lake Michigan for 1.0 river miles. For purposes ofthis delineation, the shoreline of Lake Michigan is identified at the approximate site of the Franklin Street "Draw" Bridge.
Turman Creek: Navigable in Sullivan County from its junction with the Wabash River for 7.9 river miles (nearDodds Bridge).
Turtle Creek: Navigable in Switzerland County from its junction with the Ohio River for 1.3 river miles.
Twin Creek: Navigable in Washington County from its junction with the East Fork of the White River for 7.98 rivermiles to the Cox Ferry Road Bridge near the Jefferson-Brown township line.

V
Vermillion River: See Big Vermillion River.
Vernon Fork of Muscatatuck River: Navigable from its junction with the Muscatatuck River for 39.3 river milesto Vernon (S.R. 7). See also Rider Ditch.

W
Wabash River: Navigable from its junction with the Ohio River for 441.9 river miles to the Wells-Adams countyline.
Webb Branch: Navigable in Perry County from its junction with Big Oil Creek for 0.9 river miles.
West Fork of the White River: Navigable from its junction with the White River 277 river miles to Smithfield,Delaware County.
West Fork of the Whitewater River: Navigable from its junction with the Whitewater River for 64.3 river miles tothe three forks (near Connersville).
White River: Navigable from its junction with the Wabash River for 49.5 river miles to where it branches into theEast Fork of the White River and the West Fork of the White River.
Whitewater River: Navigable from the Ohio state line for 29.65 river miles to where it branches into the East Forkof the Whitewater River and the West Fork of the Whitewater River. (The river is also navigable downstream in Ohio; the river may be alternatively described as navigable from total river mile 7.9 to total river mile 96.9.)
Wilson Creek: Navigable in Dearborn County from its junction with the Ohio River for 1.9 river miles.

Y
Yellow River: Navigable from its junction with the Kankakee River for 41.0 river miles to Plymouth.

IV. ROSTER OF INDIANA WATERS DECLARED NAVIGABLE OR NONNAVIGABLE (LISTED BY COUNTYNAME)
A
Adams County
(1) [St. Marys River: Nonnavigable.]
(2) [Wabash River: Nonnavigable.]
Allen County
(1) Little River: Navigable from its junction with the Wabash River 20.2 river miles to Ellison Road.
(2) Maumee River: Navigable from the Indiana-Ohio state line 27.05 river miles to the Hosey Dam (FortWayne).
(3) [St. Mary's River: Nonnavigable.]

B

Bartholomew County

(1) Driftwood River: Navigable from its junction with the East Fork of the White River (Columbus) to thecounty line.

(2) East Fork of White River: Navigable from the county line to its junction with the Driftwood and FlatrockRivers (Columbus).

(3) Flatrock River: Navigable from its junction with the East Fork of the White River (Columbus) to the countyline.

Benton County

No waterway has been declared navigable or nonnavigable.

Blackford County

No waterway has been declared navigable or nonnavigable.

Boone County

No waterway has been declared navigable or nonnavigable.

Brown County

(1) North Fork of Salt Creek: Navigable from its junction with Salt Creek for 36.7 river miles to its junction withDavid Branch (near Nashville).

(2) Salt Creek: Navigable from its junction with the East Fork of the White River into Lake Monroe.

C

Carroll County

(1) Tippecanoe River: Navigable throughout the county.

(2) Wabash River: Navigable throughout the county.

Cass County

(1) Wabash River: Navigable throughout the county.

Clark County

(1) Bull Creek: Navigable from its junction with the Ohio River for 1.1 river miles.

(2) Camp Creek: Navigable from its junction with the Ohio River for 1.7 river miles.

(3) Fourteen Mile Creek: Navigable from its junction with the Ohio River for 2.9 river miles.

(4) Lancassange Creek: Navigable from its junction with the Ohio River for 0.3 river miles.

(5) Ohio River: Navigable throughout the county.

(6) Silver Creek: Navigable from its junction with the Ohio River for 3.0 river miles.

Clay County

(1) Eel River: Navigable throughout the county.

Clinton County

No waterway has been declared navigable or nonnavigable.

Crawford County

(1) Big Blue River: Navigable throughout the county.

(2) Dry Run Creek: Navigable from its junction with the Big Blue River for 1.4 river miles.

(3) Little Blue River: Navigable from its junction with the Ohio River for 10.6 river miles.

(4) Mill Creek: Navigable from its junction with the Little Blue River for 1.4 river miles.

(5) Ohio River: Navigable throughout the county.

D

Daviess County

(1) East Pork of the White River: Navigable throughout the county.

(2) West Fork of the White River: Navigable throughout the county.

Dearborn County

(1) Great Miami River: Navigable throughout the county.

(2) Hogan Creek (including North Fork and South Fork): Hogan Creek (Main Stem) is navigable from its junction with the Ohio River for the entire length (0.4 river miles). The North Fork of Hogan Creek is navigablefrom its junction with Hogan Creek for 4.9 river miles. The South Fork of Hogan Creek is navigable from its junction with Hogan Creek for 5.0 river miles.

(3) Laughery Creek: Navigable from its junction with the Ohio River for 10.8 river miles (near Milton).

(4) Ohio River: Navigable throughout the county.

(5) Tanners Creek: Navigable from its junction with the Ohio River in Lawrenceburg for 10.6 river miles.

(6) Whitewater River: Navigable throughout the county.
(7) Wilson Creek: Navigable from its junction with the Ohio River for 1.9 river miles.

Decatur County

(1) Flatrock River: Navigable throughout the county.

DeKalb County

No waterway has been declared navigable or nonnavigable.

Delaware County

(1) Mississinewa River: Navigable throughout the county.
(2) West Fork of the White River: Navigable to Smithfield.

Dubois County

(1) Flat Creek: Navigable from its junction with the Patoka River throughout the county.
(2) East Fork of the White River: Navigable throughout the county.
(3) Patoka River: Navigable throughout the county.

E

Elkhart County

(1) Baugo Creek (formerly Bangango Creek).
(2) St. Joseph River: Navigable throughout the county.

F

Fayette County

(1) West Fork of the Whitewater River: Navigable to the three forks (near Connersville).

Floyd County

(1) Ohio River: Navigable throughout the county.
(2) Silver Creek: Navigable from its junction with the Ohio River for 3.0 river miles.

Fountain County

(1) Wabash River: Navigable throughout the county.

Franklin County

(1) East Pork of the Whitewater River: Navigable throughout the county from its junction with the WhitewaterRiver.
(2) West Fork of the Whitewater River: Navigable throughout the county from its junction with the WhitewaterRiver.
(3) Whitewater River: Navigable throughout the county.

Fulton County

No waterway has been declared navigable or nonnavigable. There is a discussion of navigability relative to adetermination that Nyona Lake as a public freshwater lake in *Bath v. Courts*, Ind. App., 459 N.E. 2d 72 (1984).

G

Gibson County

(1) Patoka River (also known as Houchins Ditch): Navigable throughout the county from its junction with theWabash River.
(2) Wabash River: Navigable throughout the county.
(3) White River: Navigable throughout the county from its junction on the Wabash River.

Grant County

(1) Mississinewa River: Navigable throughout the county.

Greene County

(1) Black Creek: Navigable to near Marco.
(2) Eel River: Navigable throughout the county from its junction with the West Fork of the White River.
(3) West Fork of the White River: Navigable throughout the county.

H

Hamilton County

(1) West Fork of the White River: Navigable throughout the county.

Hancock County

(1) Big Blue River: Navigable throughout the county.

Harrison County

(1) Big Blue River: Navigable throughout the county from its junction with the Ohio River.
(2) Buck Creek: Navigable 5.8 river miles from its junction with the Ohio River.
(3) Indian Creek: Navigable 4.8 river miles from its junction with the Ohio River.
(4) Mosquito Creek: Navigable 2.8 river miles from its junction with the Ohio River.
(5) Ohio River: Navigable throughout the county.
(6) Potato Run: Navigable 0.4 river miles from its junction with the Ohio River.

Hendricks County

(1) Mud Creek: Navigable to Tudor Road (near Hazelwood).

Henry County

(1) Flatrock River: Navigable throughout the county.

Howard County

No waterway has been declared navigable or nonnavigable.

Huntington County

(1) [Huntington Lake: Nonnavigable for interstate commerce.]
(2) Little River: Navigable throughout the county from its junction on the Wabash River.
(3) Wabash River: Navigable throughout the county.

J

Jackson County

(1) East Fork of White River: Navigable throughout the county.
(2) Muscatatuck River: Navigable throughout the county.

Jasper County

(1) Iroquois River: Navigable to near Parr.
(2) Kankakee River: Navigable throughout the county.

Jay County

No waterway has been declared navigable or nonnavigable.

Jefferson County

(1) Big Saluda Creek: Navigable 1.0 river miles from its junction with the Ohio River.
(2) Indian-Kentuck Creek: Navigable 3.8 river miles from its junction with the Ohio River.
(3) Ohio River: Navigable throughout the county.

Jennings County

(1) Muscatatuck River: Navigable to the main forks.

Johnson County

(1) Big Blue River: Navigable throughout the county.
(2) East Fork of White River: Navigable to its junction with the Flatrock and Driftwood rivers.
(3) Sugar Creek: Navigable from its junction with the Big Blue River (to form the Driftwood River) throughoutthe county.
(4) West Fork of White River: Navigable throughout the county.

K

Knox County

(1) Black Creek: Navigable from its junction with the West Fork of the White River (near Edwardsport)throughout the county.
(2) Busseron Creek: Navigable throughout the county.
(3) Wabash River: Navigable throughout the county.
(4) West Fork of White River: Navigable throughout the county from its junction with the White River.
(5) White River: Navigable throughout the county from its junction with the Wabash River.

Kosciusko County

(1) [Tippecanoe Lake: Nonnavigable.]

L

Lagrange County

(1) Fawn River: Two segments of the river are navigable in Lagrange County. These segments are separatedby portions of the river in Michigan. The Fawn River has been found to be nonnavigable at Greenfield Mills (river mile 32).

Lake County

(1) Grand Calumet River: Navigable from the Illinois state line (near Hammond) to Marquette Park.

(2) Indiana Harbor and Ship Canal: Navigable throughout the county.
(3) Kankakee River: Navigable throughout the county.
(4) Lake Michigan: Navigable throughout the county.
(5) Little Calumet River: Navigable throughout the county.
(6) [Wolf Lake: Nonnavigable.]

LaPorte County

(1) Kankakee River: Navigable throughout the county.
(2) Lake Michigan: Navigable throughout the county.
(3) Trail Creek: Navigable 1.0 river miles from its junction with Lake Michigan.
(4) [Unnamed Lake: Located in the north one-half of section 8, township 36 north, range 1 west is a nonnavigable lake.]

Lawrence County

(1) East Fork of White River: Navigable throughout the county.
(2) Salt Creek: Navigable from its junction with the East Fork of White River throughout the county.

M

Madison County

(1) West Fork of White River: Navigable throughout the county.

Marion County

(1) West Fork of the White River: Navigable throughout the county.

Marshall County

(1) Yellow River: Navigable to Plymouth.

Martin County

(1) East Fork of White River: Navigable throughout the county.
(2) Indian Creek: Navigable throughout the county.
(3) Lost River: Navigable from its junction with East Fork of the White River.

Miami County

(1) Mississinewa River: Navigable throughout the county.
(2) Wabash River: Navigable throughout the county.

Monroe County

(1) Beanblossom Creek: Navigable to Griffy Creek.
(2) Clear Creek: Navigable to near Harrodsburg.
(3) North Fork of Salt Creek: Navigable from its junction with Salt Creek (within Lake Monroe) throughout thecounty.
(4) Salt Creek: Navigable into Lake Monroe.
(5) West Fork of White River: Navigable throughout the county.

Montgomery County

(1) Sugar Creek: Navigable throughout the county.

Morgan County

(1) Indian Creek: Navigable from its junction with the West Fork of the White River for 3.3 river miles.
(2) [Lambs Creek: Nonnavigable.]
(3) Mill Creek: Navigable throughout the county.
(4) Mill Creek Ditch: Navigable throughout the county.
(5) Mud Creek: Navigable from its junction with Mill Creek throughout the county.
(6) West Fork of White River: Navigable throughout the county.

N

Newton County

(1) Iroquois River: Navigable throughout the county.
(2) Kankakee River: Navigable throughout the county.

Noble County

No waterway has been declared navigable or nonnavigable.

O

Ohio County

(1) Arnold Creek: Navigable from its junction with the Ohio River for 4.4 river miles.

(2) Buck Run: Navigable from its junction with the Ohio River for 1.1 river miles.
(3) Island Branch: Navigable from its junction with the Ohio River for 1.0 river miles.
(4) Laughery Creek: Navigable throughout the county.
(5) Ohio River: Navigable throughout the county.

Orange County

(1) Lick Creek: Navigable downstream from Old Spring Mill (near Paoli).
(2) Lost River: Navigable to near Orangeville.
(3) Patoka River: Navigable within Greenfield Township and downstream.

Owen County

(1) Cagles Mill Lake: Navigable throughout the county.
(2) Eel River: Navigable to Cagles Mill Lake.
(3) Mill Creek: See Cagles Mill Lake.
(4) West Fork of White River: Navigable throughout the county.

P

Parke County

(1) Big Raccoon Creek: Navigable throughout the county.
(2) Little Raccoon Creek: Navigable from its junction with Big Raccoon Creek for 5.3 river miles (NevinsCovered Bridge).
(3) Cecil M. Harden Lake: See Big Raccoon Creek.
(4) Sugar Creek: Navigable throughout the county.
(5) Wabash River: Navigable throughout the county.

Perry County

(1) Anderson River: Navigable from its junction with the Ohio River along the Spencer County line.
(2) Bald Knob Creek: Navigable from its junction with Big Oil Creek for 0.5 river miles.
(3) Bear Creek: Navigable from its junction with the Ohio River for 1.6 river miles.
(4) Big Deer Creek: Navigable from its junction with the Ohio River for 5.9 river miles. See Deer Creek.
(5) Big Oil Creek (including Webb Branch): Navigable from its junction with the Ohio River for 10.6 rivermiles. Webb Branch is navigable from its junction on Big Oil Creek for 0.9 river miles.
(6) Big Poison Creek: Navigable from its junction with the Ohio River for 6.3 river miles.
(7) Buck Creek: Navigable from its junction with the Ohio River for 0.7 river miles.
(8) Bull Hollow: Navigable from its junction with Big Oil Creek for 0.7 river miles.
(9) Caney Branch of Big Poison Creek: Navigable from its junction with Big Poison Creek for 0.2 river miles.
(10) Caney Branch of Little Deer Creek: Navigable from its junction with Little Deer Creek for 0.8 river miles.
(11) Clover Lick Creek: Navigable from its junction with Big Oil Creek for 0.7 river miles.
(12) Deer Creek: Navigable from its junction with the Ohio River for 5.9 river miles.
(13) East Deer Creek: Navigable from its junction with Deer Creek for 0.6 river miles.
(14) Fanny Creek: Navigable from its junction with the Ohio River for 0.8 river miles.
(15) Indian Fork: Navigable from its junction with Big Oil Creek for 1.4 river miles.
(16) Kelly Hollow: Navigable from its junction with Millstone Creek for 1.0 river miles.
(17) Kingly Creek: Navigable from its junction with the Ohio River for 0.2 river miles.
(18) Knob Creek: Navigable from its junction with the Ohio River for 0.2 river miles.
(19) Little Deer Creek (also known as West Fork of Deer Creek): Navigable from its junction with Deer Creekfor 3.9 river miles.
(20) Little Oil Creek: Navigable from its junction with Big Oil Creek for 4.4 river miles.
(21) Little Poison Creek: Navigable from its junction with Big Poison Creek for 1.2 river miles.
(22) Millstone Creek: Navigable from its junction with the Ohio River for 1.4 river miles.
(23) Neglie Creek: Navigable from its junction with Little Deer Creek for 0.5 river miles.
(24) Ohio River: Navigable throughout the county.
(25) Oil Creek: See Big Oil Creek.
(26) Poison Creek: See Big Poison Creek.
(27) Sample Run: Navigable from its junction with the Ohio River for 0.2 river miles.
(28) Tates Hollow: Navigable from its junction with the Ohio River for 0.3 river miles.

(29) Webb Branch: See Big Oil Creek.

Pike County

(1) East Fork of White River: Navigable throughout the county.
(2) Flat Creek: Navigable downstream from a point in Franklin Township.
(3) Patoka River: Navigable throughout the county.
(4) White River: Navigable throughout the county.

Porter County

(1) Burns Ditch: See Portage Burns Waterway.
(2) Portage Burns Waterway: Navigable in its entirety (1.3 river miles) as a connection between the LittleCalumet River and Lake Michigan.
(3) Kankakee River: Navigable throughout the county.
(4) Lake Michigan: Navigable throughout the county.
(5) Little Calumet River: Navigable throughout the county.

Posey County

(1) Big Creek: Navigable from its junction with the Wabash River for 25.4 river miles (near Cynthiana).
(2) Harris Ditch: Navigable from its junction with the Ohio River for 0.9 river miles.
(3) Hurricane Fork: See Little Fork of Big Creek.
(4) Little Fork of Big Creek: Navigable from its junction with Big Creek for 5.1 river miles.
(5) Little Pitcher Lake: Navigable as an extension of Harris Ditch.
(6) South Fork: See Little Fork of Big Creek.
(7) McFadden Creek: Navigable from its junction with the Ohio River for 2.3 river miles.
(8) Ohio River: Navigable throughout the county.
(9) Wabash River: Navigable from its junction with the Ohio River throughout the county.

Pulaski County

Tippecanoe River: Navigable throughout the county.

Putnam County

(1) Cagles Mill Lake: See Eel River, and see Mill Creek.
(2) Eel River: Navigable upstream to its junction with Mill Creek (now within Cagles Mill Lake).
(3) Mill Creek: Navigable throughout the county.

R

Randolph County

(1) Mississinewa River: Navigable throughout the county.

Ripley County

No waterway has been declared navigable or nonnavigable.

Rush County

(1) Big Blue River: Navigable throughout the county.
(2) Flatrock River: Navigable throughout the county.
(3) Little Blue River: Navigable downstream from its junction with Ball Run in Posey Township.

S

St. Joseph County

(1) Baugo Creek (formerly Banbango Creek): Navigable from its junction with the St. Joseph River throughoutthe county.
(2) Kankakee River: Navigable throughout the county.
(3) St. Joseph River: Navigable throughout the county.

Scott County

(1) Cammie Thomas Ditch: Navigable as a channelization of the Muscatatuck River.
(2) Muscatatuck River: Navigable throughout the county.
(3) South Fork of Muscatatuck River: Navigable from its junction with the Muscatatuck River upstream to itsjunction with Graham Creek at river mile 28.1.

Shelby County

(1) Big Blue River: Navigable throughout the county.
(2) Conns Creek: Navigable from its junction with the Flatrock River throughout the county (but with privateownership of the creek bed).
(3) Flatrock River: Navigable throughout the county.

(4) Little Blue River: Navigable from its junction with the Big Blue River (Shelbyville) throughout the county.
(5) Sugar Creek: Navigable to Hough Cemetery (near Boggstown).

Spencer County

(1) Anderson River: Navigable from its junction with the Ohio River throughout the county.
(2) Baker Creek: Navigable from its junction with Little Pigeon Creek for 1.8 river miles.
(3) Caney Creek: Navigable from its junction with the Ohio River for 2.8 river miles.
(4) Clear Creek: Navigable from its junction with Little Pigeon Creek for 2.4 river miles.
(5) Crooked Creek: Navigable from its junction with the Ohio River for 7.7 river miles.
(6) Garrett Creek: Navigable from its junction with the Ohio River for 2.2 river miles.
(7) Honey Creek: Navigable from its junction with the Ohio River for 1.8 river miles.
(8) Jackson Creek: Navigable from its junction with the Ohio River for 1.8 river miles.
(9) Lake Drain: Navigable from its junction with the Ohio River for 1.6 river miles.
(10) Little Pigeon Creek: Navigable from its junction with the Ohio River for 15.8 river miles.
(11) Little Sandy Creek: Navigable from its junction with the Ohio River for 2.0 river miles.
(12) Ohio River: Navigable throughout the county.
(13) Sandy Creek: Navigable from its junction with the Ohio River for 2.6 river miles.

Starke County

(1) Kankakee River: Navigable throughout the county.
(2) Tippecanoe River: Navigable throughout the county.
(3) Yellow River: Navigable from its junction with the Kankakee River throughout the county.

Steuben County

No waterway has been declared navigable or nonnavigable.

Sullivan County

(1) Busseron Creek: Navigable to near Caledonia.
(2) Kelly Bayou: Navigable from its downstream junction with an oxbow of the Wabash River to its upstreamjunction of the Wabash River.
(3) Turman Creek: Navigable from its junction on the Wabash River for 7.9 river miles.
(4) Wabash River: Navigable throughout the county.

Switzerland County

(1) Bryant Creek: Navigable from its junction with the Ohio River for 2.6 river miles.
(2) Goose Creek: Navigable from its junction with the Ohio River 1.5 river miles.
(3) Grants Creek: Navigable from its junction with the Ohio River for 2.5 river miles.
(4) Indian Creek: Navigable from its junction with the Ohio River for 4.1 river miles.
(5) Log Lick Creek: Navigable from its junction with the Ohio River for 2.3 river miles.
(6) Ohio River: Navigable throughout the county.
(7) Plum Creek: Navigable from its junction with the Ohio River for 2.9 river miles.
(8) Sand Creek: Navigable from its junction with the Ohio River for 0.9 river miles.
(9) Turtle Creek: Navigable from its junction with the Ohio River for 1.3 river miles.

T

Tippecanoe County

(1) Tippecanoe River: Navigable from its junction with the Wabash River.
(2) Wabash River: Navigable throughout the county.

Tipton County

No waterway has been declared navigable or nonnavigable.

U

Union County

(1) East Fork of Whitewater River: Navigable throughout the county.

V

Vanderburgh County

(1) Bayou Creek: Navigable from its junction with the Ohio River for 1.5 river miles.
(2) Locust Creek: Navigable from its junction with Pigeon Creek for 1.5 river miles.
(3) Ohio River: Navigable throughout the county.
(4) Pigeon Creek: Navigable from its junction with the Ohio River for 5.9 river miles.

Vermillion County

(1) Big Vermillion River: Navigable for 10.8 miles from its junction with the Wabash River throughout thecounty (and for a total of 22.6 river miles to Carmargo, Illinois).

(2) Wabash River: Navigable throughout the county.

Vigo County

(1) Wabash River: Navigable throughout the county.

W

Wabash County

(1) Mississinewa River: Navigable throughout the county.

(2) Wabash River: Navigable throughout the county.

Warren County

(1) Wabash River: Navigable throughout the county.

Warrick County

(1) Baker Creek: Navigable from its junction with Little Pigeon Creek for 1.8 river miles.

(2) Big Pigeon Creek: See Pigeon Creek.

(3) Clear Creek: Navigable from its junction with Little Pigeon Creek for 2.4 river miles.

(4) Cypress Creek (including Cypress Creek Diversion Channel): Navigable from its junction with the OhioRiver for 6.6 river miles. (The original bed of Cypress Creek is also navigable west of Cypress Creek Diversion Channel, except where the creek bed has emerged and is no longer inundated.)

(5) Little Pigeon Creek: Navigable from its junction on the Ohio River for 15.8 river miles.

(6) Ohio River: Navigable throughout the county.

Washington County

(1) Big Blue River: Navigable to the town of Fredericksburg at river mile 57.2.

(2) Cammie Thomas Ditch: Navigable as a channelization of the Muscatatuck River.

(3) East Fork of White River: Navigable throughout the county.

(4) Elk Creek: Navigable from its junction with the Cammie Thomas Ditch to river mile 3.0.

(5) Muscatatuck River: Navigable from its junction with the East Fork of the White River throughout thecounty.

(6) Twin Creek: Navigable from the East Fork of White River to river mile 7.98.

Wayne County

No waterway has been declared navigable or nonnavigable.

Wells County

(1) Wabash River: Navigable throughout the county (with navigability terminating at the Adams County line).

White County

(1) Tippecanoe River: Navigable throughout the county.

Whitley County

No waterway has been declared navigable or nonnavigable.

V. HISTORY

This Information Bulletin was first published in the Indiana Register on July 1, 1992 (15 IR 2385). On March 19, 1997, the Commission approved the First Amendment (20 IR 2920) that superseded the original bulletin. On October 11, 2006, the Commission approved the Second Amendment (20061011-IR-312060440NRA) making technical amendments. On June 11, 2008, the Commission approved the Third Amendment (20080611-IR-312080426NRA) adding sections of the Tippecanoe River as navigable in White County, Starke County, and Pulaski County. On May 16, 2017, the Commission approved the Fourth Amendment (20170524-IR-312170265NRA) updating contact information for the Division of Hearings. On xx, 2021, the Commission approved this Fifth Amendment updating URL links and making other technical amendments.

NATURAL RESOURCES COMMISSION

Information Bulletin #16 (~~Second~~ Third Amendment)~~May 31, 2017~~

SUBJECT: Civil Penalty Schedule for Violations of Oil and Gas Production Laws

1. INTRODUCTION

The department of natural resources (the "DNR") is the state agency responsible for the regulation of oil and gas exploration, development, and site reclamation. The statutory authority is set forth at IC 14-37, with rules to help administer the authority codified at 312 IAC 16. One element of enforcement to help ensure compliance with these laws is the authority to assess civil penalties through the DNR's division of ~~oil and gas~~ **reclamation**.

~~The Natural Resources Commission (the "Commission") caused the original civil penalty schedule to be published in the Indiana Register as Information Bulletin #16 on September 1, 1997 (20 IR 3538). The first amendment to Information Bulletin #16 was effective January 1, 2003 (26 IR 1376). This second amendment updates the contact information for the Commission and its Division of Hearings.~~

2. PURPOSE

The purpose of this nonrule policy document is to present a process for the assessment of civil penalties which is consistent and equitable. This penalty policy is designed to deter owners or operators from violating the law. The civil penalties are structured to provide incentives to take precautions against falling into noncompliance before it occurs. One exception is for significant violations, including but not limited to intentional waste fluid dumping or exceeding maximum allowable injection pressure which has the potential for damaging an Underground Source of Drinking Water (USDW). For these and similar significant violations, the division may assess a maximum penalty of up to ten thousand dollars ($10,000) per day for every day that the violation exists (IC 14-37-13-3).

3. PENALTY DETERMINATION

The civil penalty policy described in this nonrule policy document is intended to account for various factors in the assessment of an appropriate civil penalty for noncompliance with the statutes or rules. The director of the DNR's division of ~~oil and gas~~ **reclamation** shall determine the base civil penalty to be assessed by considering the following criteria:

History of Violations: The division director shall consider the operator's history of previous violations duringthe preceding twelve months. Each violation shall be counted without regard to whether it led to a civil penalty assessment.

Seriousness: The division director shall consider the seriousness of a violation, including any actual or potential damage to the environment or hazard to the health and safety of the public.

Negligence: The division director shall consider the degree of fault in the occurrence of, or failure to correct, a violation.

4. PENALTY MATRIX

Based on these criteria for a penalty determination, the matrix shall be used by the division to assess base civil penalties. The matrix was designed to remove excessive subjectivity from the penalty assessment phase. The matrix contains the following information:

Violation Type: Includes an alphabetical list of all (coded) violations observed by the division of ~~oil and gas~~ **reclamation**.

Division Response: This category includes the information on the initial action to be taken by the individualwho noted the noncompliance, through the final action by the division for referral to the attorney general's office.

Base Penalty Amount: Includes the amount of the penalty to be assessed based upon the number of occurrences and the type of violation.

In the case of continuing violations, the DNR has the authority to immediately assess a penalty, regardless of the noncompliance. In these cases, the penalty can be calculated based on the number of days the violation or noncompliance occurred. The base civil penalty derived from the penalty matrix could then be multiplied by the number of days of violation. A copy of the penalty matrix is attached to, and made a part of, this policy.

Where warranted by the facts of a particular case, the division may omit the penalty stage and escalate directly to permit revocation. Examples include when an owner or operator is bankrupt, deceased, or is not serviceable. The penalty phase may also be bypassed where an operator has three or more outstanding violations and has not

contacted the division or made any attempt to correct the noncompliances.

(a) Actions after the Violation

Good faith can be manifested by the violator promptly reporting, and correcting, its noncompliance. Assuming such self-reporting is not required by law, this behavior can result in mitigation of the penalty. Prompt correction ofenvironmental problems also can constitute good faith. Lack of good faith, on the other hand, can result in the denial of penalty mitigation. Subject to this guidance, the division director may make adjustments up or down, on a case by case basis. The following percentage reductions of guidance, the division director may make adjustments up or down, on a case by case basis. The following percentage reductions of the base civil penalty will be considered for operators demonstrating good faith efforts in achieving compliance:

- If the violation is abated immediately or within 25% of the time set for abatement, including extensions oftime for abatement, a reduction of 90% of the base penalty will be considered.
- If the violation is abated within 26% to 50% of the time set for abatement, a reduction of 80% of the basepenalty will be considered.
- If the violation is abated within 51% to 75% of the time set for abatement, a reduction of 50% of the basepenalty will be considered.
- If the violation is abated within 76% to 100% of the time set for abatement, a reduction of 25% of the basepenalty will be considered.
- If a violation was self-reported or if an error was made in specific reporting requirements, the director mayreduce the penalty by up to 90%.

(b) Ability to Pay

The burden to demonstrate inability to pay rests on the respondent, as it does with any mitigating circumstances.Thus, a respondent's inability to pay usually will be considered at the settlement stage, and then only if the issueis raised by the respondent. If the respondent fails to provide sufficient information, such as state and federal income tax returns for at least three years, the division will disregard this factor in adjusting the penalty.

When it is determined that a violator cannot afford the penalty prescribed by this policy, or the payment of all or a portion of the penalty will preclude the violator from achieving compliance or from carrying out remedial measureswhich DNR believes to be more important than the deterrence effect of the penalty, the following options may be considered:

- a delayed payment schedule. Such a schedule may even be contingent upon an increase in sales or someother indicator of improved business.
- an installment payment plan with interest.
- straight penalty reductions as a last recourse.

The amount of any downward adjustment of the penalty is dependent on the individual financial facts of the case.

(c) Cost to DNR of Enforcement Action

Pursuant to IC 14-37-13-7, if an order is issued under this article (or as a result of any administrative proceeding under this article), the court or the division director may assess against any party to the proceeding the costs andexpenses, including attorney's fees, reasonably incurred by that person with respect to the proceeding, includingany judicial review of a final agency action. The division director shall determine the amount of these costs and expenses.

(d) Economic Benefit

An economic benefit component should be considered when a violation results in significant economic benefit tothe violator. Whenever possible, the economic benefit of noncompliance must be examined; however, for many regulatory requirements, the economic benefit of noncompliance will be difficult to quantify. Enforcement

personnel should consider the following types of economic benefit from noncompliance in determining theeconomic benefit component:

- Benefit from delayed costs
- Benefit from avoided costs
- Other benefits (e.g., profits for period of startup prior to obtaining a permit)

(e) Other Unique Factors

This policy allows an adjustment for unanticipated factors which may arise on a case by case basis. Enforcementpersonnel have the discretion to make adjustments to the civil penalty for such reasons.

Possible circumstances that may necessitate a downward adjustment in the base civil penalty include:

- It is highly unlikely that the DNR will be able to recover the full civil penalty in litigation
- Defects in evidence, loss of witness, revision of rules, or other complication
- Factors which may make negotiation desirable or reasonable.

5. MINIMUM PENALTY

The minimum penalty, regardless of calculations, will not be less than fifty dollars ($50).

6. WAIVER OF CIVIL PENALTIES

The division director upon his or her own initiative or upon written request, may waive the civil penalty in whole or in part if he or she determines that the penalty would be demonstrably unjust. The basis for every waiver shall be fully explained and documented in the records of the case.

7. ADMINISTRATIVE REVIEW OF CIVIL PENALTY ASSESSMENT

The owner or operator assessed a civil penalty may contest the proposed penalty by requesting administrative review within thirty days of receipt of the Notice of Penalty Assessment. A petition for review in writing must be sent which states facts demonstrating that:

A. The petitioner is a person to whom the order is specifically directed;
B. The petitioner is aggrieved or adversely affected by the order; or
C. The petitioner is entitled to review under any law.

The request for administrative review shall be delivered to **one (1) of the following addresses**:

Natural Resources Commission
Division of Hearings
Indiana Government Center North
100 N. Senate Ave., Room N103
Indianapolis, IN 46204-2273**; or**
nrcaopa@nrc.in.gov

Typically, the first stage of a proceeding after filing a request for administrative review is to set the proceeding for a prehearing conference. If the respondent believes that it is not liable or that the circumstances of its case justify mitigation of the proposed penalty, these issues can be discussed before or during the prehearing conference. In many cases, the fact of a violation will be less of an issue than the amount of the penalty assessed. The burden always is on the violator to justify any mitigation of the assessed penalty.

8. FINAL ASSESSMENT AND PAYMENT

If an operator fails to request a hearing as provided in IC 4-21.5-3-7, the proposed assessment becomes a final order of the director; the penalty assessed becomes immediately due and payable upon expiration of the time allowed to request a hearing. The division director retains the discretion, however, to enter into a settlement agreement with an operator which fails to request review of a civil penalty.

9. HISTORY

This Information Bulletin was first published in the Indiana Register on September 1, 1997 (20 IR 3538). On January 1, 2003, the Commission reaffirmed this information bulletin approving the First Amendment (26 IR 1376). On May 16, 2017, the Commission approved the Second Amendment (20170531-IR-312170267NRA), updating the contact information for the Commission and its Division of

Hearings. On xx, 2021, the Commission approved this Third Amendment making various technical amendments.

Penalty Matrix
Division of ~~Oil and Gas~~ **Reclamation**

Division Response						Number of Occurrences (Previous Year)		
Violation	1st Action	2nd Action	3rd Action	4th Action	5th Action	Occurrences 1-3	Occurrences 4-6	Occurrences >6
ANN1	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General		$2,000	$4,000	$8,000
AWF1	NOV w/ Penalty	Sec. 8 Complaint	Attorney General			1/3 Assess. Amt	2/3 Assess. Amt	Assess. Amt.
BC1	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$500	$1,000	$2,000
DP1*	NOV w/ Penalty	Sec. 8 Complaint	Attorney General			$500	$1,000	$2,500
DP1**	NOV w/ Penalty	Sec. 8 Complaint	Attorney General			$250	$500	$1,000
DP1***	NOV w/ Penalty	Sec. 8 Complaint	Attorney General			$500	$1,000	$2,500
FH1	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$50	$100	$200
FH2	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$100	$200	$400
FH3	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$50	$100	$200
FH4	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$50	$100	$200
FH5	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$50	$100	$200
FH6	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$50	$100	$200
FH7	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$50	$100	$200
FH8	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$50	$100	$200
FRL1	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$50	$100	$200
IC1	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General		$250	$500	$1,000
IC2	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General		$250	$500	$1,000
IC3	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General		$250	$500	$1,000
IC4	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General		$250	$500	$1,000
ID1	WONC	Penalty	Sec. 8 Complaint	Attorney General		$50	$100	$200
IP1	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General		$1,000	$2,000	$4,000
IP2	NOV w/ Penalty	Penalty	Sec. 8 Complaint	Attorney General		$1,000	$2,000	$4,000
IP3	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General		$1,000	$2,000	$4,000
IP4	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General		$1,000	$2,000	$4,000
IP5	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General		$1,000	$2,000	$4,000

MIF1	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General		$2,500	$5,000	$10,000
MIF2	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General		$2,500	$5,000	$10,000
MIT1	NOV w/ Penalty	Sec. 8 Complaint	Attorney General			$2,500	$5,000	$10,000
OPM1	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$50	$100	$200
PP1	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$100	$200	$400
QMR1	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$50	$100	$200
RP1	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$100	$200	$400
SPC1	NOV w/ Penalty	Sec. 8 Complaint	Attorney General			$2,500	$5,000	$10,000
SPR1	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$100	$200	$500
SR1	WONC	NOV w/o Penalty	Penalty	Sec.8 Complaint	Attorney General	$100	$200	$400
TB1	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$100	$200	$400
UNI1	NOV w/ Penalty	Sec. 8 Complaint	Attorney General			$2,500	$5,000	$10,000
UNI2	NOV w/ Penalty	Sec. 8 Complaint	Attorney General			$2,500	$5,000	$10,000
UNI2(SR)	NOV w/ Penalty	Sec. 8 Complaint	Attorney General			$100	$250	$500
UNI3	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General		$2,500	$5,000	$10,000
UNI4	NOV w/ Penalty	Sec. 8 Complaint	Attorney General			$2,500	$5,000	$10,000
WFD1	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$1,000	$2,000	$4,000
WFD2	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$2,000	$4,000	$8,000
WFD3	NOV w/ Penalty	Sec. 8 Complaint	Attorney General			$2,500	$5,000	$10,000
WFD4	WONC	NOV w/o Penalty				$1,000	$2,000	$4,000
WFD5	WONC	NOV w/o Penalty				$1,000	$2,000	$4,000
WFD6	WONC	NOV w/o Penalty				$1,000	$2,000	$4,000
WIP1	NOV w/ Penalty	Sec. 8 Complaint	Attorney General			$1,000	$2,000	$4,000
WNP1	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$250	$500	$1,000
WNP2	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$250	$500	$1,000
WNP3	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$250	$500	$1,000
WNP4	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$250	$500	$1,000
WNP5	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$250	$500	$1,000
WNP6	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$250	$500	$1,000

WOP1	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$500	$1,000	$2,000
WR1	WONC	NOV w/o Penalty	Penalty	Sec. 8 Complaint	Attorney General	$50	$100	$200

Legend:

ANN	Improper Annulus
AW	Annual Well Fee
BC	Bond Cancellation
DP	Drilling Permit
FH	Fire Hazards
FRL	File Review Letter
IC	Improper Casing
ID	Lease and Well Identification
IP	Improper Pit
MIF	Mechanical Integrity Failure
MIT	Mechanical Integrity Test
OPM	Operation and Maintenance
PP	Pit Permit (Authorization)
QMR	Quarterly Monitoring Report
RP	Rotary Pit
SPC	Spill Containment/Cleanup
SPR	Spill Reporting
SR	Site Restoration
TB	Transfer and Bond
UNI	Unauthorized Injection
WFD	Waste Fluid Disposal
WIP	Well Improperly Plugged
WOP	Well Operation
WNP	Well Not Plugged
WONC	Warning of Non-Compliance
WR	Well Record
NOV	Notice of Violation
NOV W/O	Notice of Violation (Without Penalty)

Number of Occurrences means the number during the previous 12-month period except for AWF.
Number of Occurrences for AWF means the number for the operator.
DP1* Response for drilling without a permit.
DP1** Response for changing status of well without permit; Class II to oil well.
DP1*** Response for changing status of well without permit; oil well to Class II.

NATURAL RESOURCES COMMISSION

Information Bulletin #17 (~~Fifth~~ Sixth Amendment)

SUBJECT: Habitat Mitigation Guidelines

I. Purpose

The purpose of this bulletin is to provide guidance for developing compensatory mitigation plans associated with applications for permits and remediation of violations under IC 14-26 (the "Lakes Preservation Act"), IC 14-28-1 (the "Flood Control Act") or IC 14-29-1 (the "Navigable Waterways Act"). The bulletin is intended as guidance to identify when mitigation is necessary and to determine the type of mitigation required for the site conditions. The bulletin will be considered by the Department of Natural Resources (DNR) when evaluating permit applications, considering remediation plans associated with violations as well as in other instances when site remediation is necessary. The regulated public should consider the bulletin during the development of projects. The bulletin provides flexible standards to be considered with an understanding that each site is unique and presents a variety of challenges and opportunities.

The mitigation guidelines are directed most notably to projects under the Flood Control Act. Mitigation associated with the Navigable Waterways Act will generally be addressed contemporaneously with or in a manner similar to mitigation under the Flood Control Act. The mitigation guidelines will also be considered with respect to remediation under the Lakes Preservation Act. Because mitigation involving public freshwater lakes is rare and highly variable, detailed discussion of mitigation under the Lakes Preservation Act is not included in the bulletin.

II. Floodway Identification

The DNR's authority within a "floodway" is defined by 312 IAC 1-1-16. For purposes of this information bulletin, the "floodway" is limited to where a river or stream has a drainage area of at least one square mile. 312 IAC 10-1-2(c). Information regarding the location and delineation of a floodway for a particular river or stream may be obtained from the DNR at:

Division of Water
Department of Natural Resources
402 W. Washington St., Rm. W264
Indianapolis, IN 46204
Telephone: 1-877-928-3755
https://www.in.gov/dnr/water/

III. Mitigation

Mitigation provides for the development and preservation of resources on-site or at an alternative site that are similar to or better than the resources originally found within the impacted area. In the context of violation remediation, mitigation is intended to restore or enhance the resources within an impacted site. In some instances, participation in the In-Lieu Fee Program, Information Bulletin #79 ***[~~20200603-IR-312200289NRA~~][insert new DIN]***, maybe beneficial to achieving the desired mitigation results.

To obtain a permit, an applicant must prove to the DNR that regulated activities (such as filling, excavating, or building) would not result in "unreasonably detrimental effects upon the fish, wildlife, or botanical resources". IC 14-28-1-22(e).

> Unreasonably detrimental effects upon fish, wildlife, or botanical resources means damage to fish, wildlife, or botanical resources that is found likely to occur by the director based upon the opinion of a professional qualified to assess the damage and:
> (1) creates a condition where recovery of the affected resources is not likely to occur within an acceptable period; and
> (2) cannot be mitigated through the implementation of a mitigation plan approved by the director.
> 312 IAC 10-2-39.

Mitigation is generally focused on impacts to a stream or other body of water and to the associated riparian area. The riparian area is the land adjacent to a stream or other body of water that transitions into an upland habitat. Riparian areas vary in composition based on site conditions, however, common components include wetlands, forests, and open and herbaceous areas. Although riparian areas are often a small percentage of the total land

area, they serve many valuable functions and provide vital elements in the overall landscape. They offer corridors for a wide range of wildlife and important feeding and nesting areas as well as providing both a buffer and an ecological link between water-based and land-based ecosystems.

When mitigation is required, a mitigation plan must be submitted to the Division of Water for review by a Division of Fish and Wildlife biologist for DNR approval.

IV. Mitigation Steps

Before initiating mitigation, the resources in the impact site must be evaluated. The types, diversity, and density of vegetation, stream characteristics, and proximity to other habitats are examples of the characteristics to be identified during the evaluation. Existing ecological condition and performance standards of the mitigation site are based on the best available science that can be measured or assessed in a practicable manner. In some instances, formal habitat evaluation may be necessary. The Floristic Quality Assessment ("FQA"), Quality Habitat Evaluation Index ("QHEI"), and Headwater Habitat Evaluation Index ("HHEI") are common evaluation tools.

Once a site is evaluated, a strategy is developed following these steps:

(1) Avoidance of impacts to the resources.
(2) Minimization of impacts to the resources.
(3) Compensatory mitigation to offset unavoidable impacts.

During design, seeking avoidance of impacts is the first step. Avoidance is critical if a listed species has been recorded near the project site. Obtaining a list of threatened and endangered species from the DNR's Division of Nature Preserves early in the project development phase can help avoid impacts. For example, avoiding tree cutting at certain times of the year is a means to avoid impacts to the state and federally endangered Indiana bat.

Minimization can occur through a variety of ways. Impacting the edge of forested habitat instead of fragmenting the forest is an example of minimization through choice of location. Conducting in-stream work outside the fish spawning season is another form of minimization based on scheduling.

Compensatory mitigation should be the last step in mitigation after appropriate and practical steps have been taken to avoid and minimize impacts. Compensatory mitigation typically involves site restoration but can also include creation, enhancement, and preservation.

A. Restoration

Restoration is the preferred method of compensatory mitigation and involves restoring habitat in areas that at one time likely contained habitat. Planting native trees, shrubs, forbs, and grasses, and installing in-stream habitat features are common forms of restoration. Restoration is expected to have a higher success rate than new habitat creation, and restoration options should be considered before pursuing alternative mitigation methods. Additionally, restoration adjacent to existing habitat is beneficial for the local environment.

B. Enhancement

Enhancement generally involves adding natural habitat features within an area containing some natural features but not possessing all the desired qualities. Like restoration, enhancement should result in a significant increase in overall habitat quality. Inter-planting within an area containing some woody vegetation, or removing non-native, invasive species are examples of enhancement. In some areas, the addition of a habitat feature may have a negative impact on current natural conditions. These instances typically require close scrutiny and detailed explanation of net benefits.

C. Creation

Creation is the construction of new habitat where the proposed habitat did not previously exist. Habitat creation may be a difficult and complex endeavor. Understanding the soils, hydrology, and topography of a site proposed for habitat creation will improve the likelihood of successful habitat creation. This form of mitigation must be pursued with caution.

D. Preservation

Preservation requires setting aside land having existing habitat to avoid impacts by future actions.

Preservation is typically part of a mitigation package that includes restoration or enhancement because by itself preservation results in a net loss of habitat. Preservation and creation are typically considered for mitigation only if no other option is available. Preservation is mainly considered in one of the following situations:

(1) Using another form of compensatory mitigation is impracticable at the approved ratio, and preservation would protect tracts with better than average quality that contain at least 10 acres.
(2) Preservation would protect an outstanding resource.
(3) A threat is demonstrated to the resource proposed for protection that is outside the control of the applicant.

V. Mitigation Site Location

Mitigation sites must be located within the jurisdictional area of the DNR and within the same HUC as the impact site. The mitigation should occur along the same waterbody as the impact site, when possible, or, alternatively, at another site as close to the impact site as possible. Ideally, a mitigation site should be adjacent to existing habitat of a similar type. Factors to consider in site location include:

(1) Proximity to the impact.
(2) Easements.
(3) Suitability for protection and maintenance.
(4) Current and probable future surrounding land uses.
(5) Relationships to other natural areas.
(6) Hydrology and soils.
(7) Local fish and wildlife populations.

Although mitigation within or near the impact site is most appropriate**,** mitigation at a different location, but within the same HUC, can be beneficial. For example, a different location may result in better restoration of lost functions and values or may afford a higher level of protection.

VI. Mitigation Ratios

The amount of compensation compared to the amount of impact is the mitigation ratio. The typical unit for the ratio is stated in acres, although linear feet or the numbers of trees may be used. Because mitigation is to offset temporal losses of functions and values and includes a risk of failure, mitigation ratios are generally greater than 1:1. The mitigation ratios presented in this bulletin are based on restoration and should be considered standard minimum ratios. The DNR may authorize exceptions based upon the impacted habitat. If creation, enhancement, or preservation is used instead of restoration, the DNR would likely seek higher ratios, with preservation typically at 10:1 or higher.

Habitat Category	Standard Minimum Mitigation Ratio
Palustrine Emergent Wetland	2:1
Palustrine Scrub-Shrub Wetland	3:1
Palustrine Forested Wetland	4:1
Non-wetland forest (at least one acre of disturbance)	2:1
Non-wetland forest (less than one acre of disturbance in a rural area)	1:1
Non-wetland forest (less than one acre of disturbance in an urban area)	5:1 based on trees at least ten (10) inches in diameter-at-breast-height ("dbh") OR 1:1 based on area

Standard minimum mitigation ratios typically increase by at least 0.5 if the impact area is of high quality or is largely undisturbed. Increases of 1.0 to 2.0 are typical when the impact is to a previous mitigation site, there are cumulative effects, or if there are extended temporal delays in implementing the mitigation plan. Ratios can increase if projects continue to fall out of compliance with rules, regulations, and permits. The ratio would be applied on a case-by-case basis. Some habitat types may be difficult to mitigate due to uniqueness, rarity, high quality, or difficulty in properly compensating. For example, fens are unique and very difficult to recreate, making mitigation more complicated. Habitat quality can be measured by several site assessment tools, such as FQA, QHEI, and HHEI. The DNR may not approve mitigation if an impact site is of very high quality, such as one with a FQA score of 35 or greater or a mean C-value of 3.5 or greater.

VII. Riparian Habitat Mitigation

The level of mitigation for removing trees from a non-wetland riparian area depends on the size of the area impacted, the number and size of the trees being removed, and the type and quality of the overall habitat being impacted. Impacts under 0.1 acres typically do not require mitigation or additional plantings beyond seeding and stabilizing disturbed areas, though there are exceptions, mostly for urban areas. Additional mitigation may be warranted if the impact is to a special or unique habitat or ecosystem type. The following consider some particular circumstances:

A. At least one acre of non-wetland tree removal

Projects that remove at least one acre of trees in a floodway from a non-wetland riparian area would typically result in a minimum mitigation ratio of 2:1. For example, one and one-half (1.5) acres of impact would warrant three acres of mitigation. Restoring wooded riparian habitat is slow and difficult. Typical mitigation includes restoring wooded riparian habitat in areas lacking woody vegetation or increasing the size of a current buffer. The DNR may require a restrictive covenant or other agreement to protect the site and ensure the success of mitigation.

B. Less than one acre non-wetland tree removal in a rural area

In most cases, a project that impacts less than one acre of trees in a floodway from a rural non-wetland riparian area would result in mitigation at a ratio of 1:1 based on area. The amount of appropriate mitigation may increase if the site is located near a sensitive area or other unique conditions exist. A rural area is generally the area outside:

(A) the corporate boundaries of a consolidated city or an incorporated city or town; and
(B) the territorial authority for comprehensive planning established under IC 36-7-4-205(b).

Often mitigation can be accomplished by replanting the disturbed area. If this approach is impracticable, mitigation can be moved off site in coordination with the Division of Fish and Wildlife biologist.

Mitigation would be initiated as soon as practicable and include a mixture of native grasses, sedges, wildflowers, shrubs, and trees suitable to the same region of Indiana (north, central, south) as the mitigation site. Additional details are found in Section X.

C. Less than one acre non-wetland tree removal in urban area

Urban floodways can consist of mowed grass to entire forests and all gradients in between. In order to address this variation, mitigation for impacts of less than one acre of urban non-wetland riparian area tree removal depends on what is impacted. If the impact site consists of scattered trees in a park-like setting, mitigation normally consists of replacing the larger trees only. For each tree removed that is at least ten inches in diameter-at-breast-height ("dbh"), five trees at least one to two inches in dbh would be planted. Mitigation trees are to be selected from the Woody Riparian Vegetation List (Appendix A) and should be planted along the stream corridor, if practicable. If impracticable, a Division of Fish and Wildlife biologist would work with an applicant to devise an acceptable planting plan.

If the area impacted is less than one acre but includes a forest with more than one vegetation layer (e.g., herbaceous, understory, overstory vegetation), mitigation is typically the same as with rural areas, at a 1:1 ratio based on area.

D. Early successional habitat

Early successional non-wetland riparian habitat typically includes annual and perennial grasses and forbs, and it may include scattered shrubs and small saplings. An example of an early successional riparian habitat includes a one-to-five-year-old abandoned farm field. Areas where farming has recently ceased and are fallow for less than a year do not generally require mitigation. Aerial photography or other methods may be used to indicate recent farming activity.

Early successional riparian habitat disturbed by temporary impacts warrants replanting the disturbed area. Mitigation at a ratio of 1:1 would be needed for a permanent impact to early successional riparian habitat. A native herbaceous riparian seed mixture is planted with at least 10 species of native grasses, sedges, and wildflowers selected from the Herbaceous Riparian Vegetation List in Appendix A. If the area contains

scattered shrubs or tree saplings, mitigation includes woody species native to the region.

VIII. In-Stream Habitat and Mitigation

Stream relocations, stream crossings, stream enclosures (e.g., culverts and pipes), and other similar projects typically result in impacts upon in-stream habitat that require in-stream mitigation. Because in-stream impacts vary widely, in-stream mitigation is considered on a case-by-case basis. An early coordination meeting with a Division of Fish and Wildlife biologist is highly recommended to review alternatives.

Impacts to less than 50 feet of stream typically do not require in-stream mitigation. Mitigation may be needed if impacts result to important resources, such as mussel beds. Impacts from 50 feet to 300 feet through a single project or an accumulation of projects are typically mitigated at a 1:1 ratio. Impacts over 300 feet often warrant 2:1 mitigation. Exceptions to this ratio may be requested based on the quality of the habitat and the fish and wildlife resources impacted. Mitigation may be reviewed in coordination with the U.S. Army Corps of Engineers (USACE) and Indiana Department of Environmental Management (IDEM).

Mitigation for in-stream impacts includes various measures. These measures include the installation of in-stream habitat features, such as boulders; riparian plantings to increase the woody buffer adjacent to a stream (50 feet or greater is a common-sized buffer); bioengineering along the streambank to reduce erosion; improving a nearby crossing structure for the benefit of fish and wildlife; or restoring riffle-run-pool assemblages. Mitigation at a 1:1 ratio involves replacing lost functions and values along a length of stream equal to the impact. For 2:1 mitigation, lost functions and values are replaced along a length of the stream or a nearby stream that is twice the length of impact.

A complete mitigation plan for impacts to in-stream habitat includes the following:

(1) A plan view of the proposed project.
(2) The materials proposed to be used.
(3) Typical cross-sections.
(4) Typical details for each type of practice used.
(5) The time of year work would be performed.

Stream relocation projects are complex, difficult to design and construct, and have a high risk of failure. All reasonable alternatives should be considered first. If relocation appears to be the best option, a mitigation plan will be required. An applicant is encouraged to discuss a stream relocation project with a Division of Fish and Wildlife biologist before submitting a permit application. Hydraulic modeling of a relocated channel would be calculated with mature trees, shrubs, grasses, and other similar features. Additional mitigation, such as planting trees along a stream, may affect hydrologic modeling, so mitigation and engineering design need to be coordinated.

Stream relocation requires replacement of lost qualities and characteristics on the relocated segment, which are at least equal to the original segment, and which fit the surrounding landscape. Natural channel design is applied to the relocated segment, including elements needed to complement upstream and downstream conditions. To the extent practicable, the relocated segment should have a similar cross-section, substrate, in-stream features, and riparian corridor and channel morphology when compared to the original segment. The USDA's Natural Resources Conservation Service, among others, provide helpful information on channel design.

For the relocation of a medium or large trapezoidal channel, a two-stage design may be needed in which there is a low flow channel that is allowed to meander within the new channel. The overbank shelf, or bench is planted with woody vegetation when appropriate. The Woody Riparian Vegetation List in Appendix A includes species appropriate for site conditions.

All stream crossings need to consider the ability of fish and wildlife to pass through the structure. Crossings must not create conditions that are less favorable for passage through the area compared to pre-disturbance conditions. To ensure fish passage is not obstructed, material should not be placed on the streambed above the existing flowline. Wildlife passage typically requires retention of a dry, flat area free of riprap and other material incompatible with wildlife movement all the way through the structure, and must be designed to promote the passage of deer. DNR encourages the use of a bridge or a three-sided culvert instead of a full stream enclosure to assist in maintaining the natural stream bottom, which provides better fish and wildlife movement, maintains essential habitat features, and provides resting and feeding locations. Use of a full stream enclosure, such as a pipe or four-sided culvert that contains a stream on all sides is discouraged due to the detrimental effect on fish and wildlife. If a stream crossing requires the use of a full stream enclosure, fish and wildlife passage must still be

provided. A full stream enclosure that is sumped below the existing streambed elevation, to approximate a natural stream bottom, may, in some situations, be acceptable.

IX. Wetlands

A. Differing agency responsibilities for mitigation

Mitigation is required for impacts of 0.1 acre or more to wetlands. The DNR, the USACE, and IDEM have differing statutory responsibilities for wetlands. The USACE and IDEM are responsible for issues associated with water quality while the DNR's responsibility is primarily focused on impacts to fish, wildlife, and botanical resources. As a result, different factors may be addressed within a single mitigation plan to meet the requirements of the three agencies. Common concerns addressed by DNR consider whether wetland mitigation sites have an appropriate suite of native plant species, replace the same type of wetlands as those impacted, and provide appropriate fish and wildlife resources. DNR will also seek to ensure that implementation of mitigation plans does not create adverse effects to existing mitigation site resources. The DNR recommends coordinating with all three agencies when developing a mitigation plan.

B. Forested wetlands

Forested wetlands are characterized by woody vegetation that is at least 20 feet tall. Forested wetlands normally have an overstory of canopy trees, an understory consisting of trees and shrubs, and an herbaceous layer. They are often inundated with floodwater from nearby streams and may be covered by many feet of slow moving or standing water. The numerous benefits provided by forested wetlands, and time needed to successfully mitigate the habitat, warrants a mitigation ratio of 4:1.

C. Scrub-shrub wetlands

Scrub-shrub wetlands may represent a successional stage leading to a forested wetland, or they may be relatively stable communities. Scrub-shrub wetlands are dominated by woody vegetation less than 20 feet tall. They may include shrubs, young trees, and trees or shrubs that are small or stunted because of environmental conditions. These types of wetlands also take time to develop, can be difficult to restore, and typically have a mitigation ratio of 3:1.

D. Emergent wetlands

Emergent wetlands are characterized by erect, rooted, herbaceous hydrophytes (water-loving plants), excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants and are frequently or continually inundated with water. Marsh, meadow, and slough are types of emergent wetlands. Since some overall loss of function and value is likely to occur through impacts to an emergent wetland, and there are temporal losses, emergent wetland mitigation is at a ratio of 2:1.

X. Mitigation Plans

A. General information

Most mitigation involves planting vegetation. Appropriate mitigation may only require planting canopy trees but more commonly includes planting understory herbaceous vegetation; a layer consisting of shrubs and small trees, and a canopy layer of larger trees. Mitigation plans typically require the following elements:

(1) The location of the mitigation site on a topographic or aerial map.
(2) A list of species of native trees, shrubs, and herbaceous plants to be planted.
(3) The number, size, and location of plantings, identified on maps or aerial photographs.
(4) The spacing of plants.
(5) The season for planting.
(6) Planting techniques.
(7) Success criteria.
(8) To help meet success criteria, a monitoring plan that extends for at least three years.
(9) If applicable, a plan view and cross-section details of proposed mitigation practices.

Plant species are selected based on local conditions. Planting near adjacent habitat of a similar type is generally preferred. If an area is prone to flooding, flood-tolerant species are selected that include larger

specimens. The taller height of containerized stock increases the probability a portion of a tree would remain above prolonged floodwaters and increases the likelihood of plant survival. Even species with high flood tolerance cannot survive extended periods with their crowns underwater. Areas in the floodway that are less prone to flooding are often suitable to a larger suite of species. An applicant should consider a diversity of trees that produce nuts (e.g., oak, hickory and walnut), and berries (e.g., dogwood, hawthorn, and gum) preferred by wildlife.

Only species native to the county may be used for mitigation. No hybrids, cultivars, or genetically modified plants are used. Lists that include suitable species are in Appendix A. Even though a species may be listed for use within a region of Indiana, local conditions may cause the species to be unsuitable for planting. Species may not be widespread within a region and may have specific habitat requirements. In addition, species may volunteer on a site and do not need to be planted.

The species approved by the DNR in a mitigation plan become part of the permit. If modifications become necessary to the approved species, a Division of Fish and Wildlife biologist would provide recommendations.

B. Woody revegetation

These guidelines apply to designing a mitigation plan that includes woody vegetation. The Woody Riparian Vegetation List in Appendix A includes species native to Indiana that are generally suitable for mitigation.

The spacing of trees is intended to optimize the use of the site by wildlife and create conditions suitable for the development of a mature riparian forest. Canopy tree spacing depends on the size of stock used. To the extent feasible, woody riparian vegetation is planted with random spacing to simulate natural stocking. By adding or subtracting one foot to the planting distance between every other tree, an offset grid can help give the appearance of random spacing. This approach should be used only with container stock to avoid overcrowding trees. Planting trees and shrubs in rows supports easier mowing and weed management but appears less natural than random planting or use of an offset grid. Tree seedlings or whips should be planted ten feet apart within each row and ten feet apart between each row. Ten-foot-by-ten-foot spacing yields 435 trees per acre. If container-grown stock (for example, three or five gallon trees that are typically four to six feet tall) is used, tree spacing can be twelve feet apart (12-foot-by-12-foot spacing yields 302 trees per acre). Balled and burlapped trees are spaced 15 feet apart, resulting in 194 trees per acre. These larger specimens often have higher survival rates and restore lost functions at a quicker rate. At one-half the density of the canopy trees, shrubs and understory trees must also be included in the woody revegetation plan. See the table below for an outline of these requirements.

Type	Spacing	Number Per Acre
Seedlings and whips	10 feet by 10 feet	435
3 and 5 gallon stock (including 1 inch to 2 inch dbh container stock)	12 feet by 12 feet	302
Balled and Burlapped	15 feet by 15 feet	194
Shrubs and Understory Trees	Between every other canopy tree	One-half of the canopy tree spacing

Additional planting principles include:

(1) At least five canopy tree species and at least five shrub/understory tree species (with a minimum one understory tree species) are selected from the Woody Riparian Vegetation List that are suitable to the region of Indiana where the project is located.
(2) Not more than one maple and at least one hickory and one oak species are selected.
(3) At least ten percent (10%) of trees are oak and hickory species.
(4) Clumping a single species in an area is avoided.
(5) A single species comprises not more than twenty percent (20%) of the canopy or understory trees planted for mitigation, with seedlings of selected species planted in approximately equal numbers.
(6) Shrubs and understory trees are planted between every other canopy tree and their species are mixed.
(7) Trees and shrubs are planted randomly by species to simulate natural stocking, but including appropriate consideration of wetlands indicator statuses.
(8) Some trees and shrubs are placed within ten feet from the proposed project limits (such as a fence or access road) to allow canopy closure over time.
(9) Species with a facultative upland ("FACU") status are planted in the floodway farthest from the stream or within dryer areas.
(10) Species with a facultative ("FAC") or a facultative wetland ("FACW") status are placed in the floodway closest to the stream or within wetter areas.

(11) Species with an indicator status of obligate wetland ("OBL") are placed in the wettest areas of the floodway.
(12) Plants and seeds are obtained from sources within American National Standards Institute ("ANSI") Plant Hardiness Zones 4, 5, or 6.
(13) Saplings are planted between either:
(A) September 15 to the earlier of December 15 or until the ground has frozen; or
(B) the latter of March 1 or when the frost leaves the ground in spring to June 1.
(14) Plantings are performed according to sound horticultural practices, including proper planting depth and soil compaction following planting.
(15) Saplings are planted so the root collar is not deeper than one-half (1/2) inch below the ground surface.
(16) The planting area is mowed:
(A) to a height of not more than six inches to provide a suitable planting area generally free of vegetative competition; and
(B) not more than ten days before saplings are planted.
(17) If the planting area exists as pasture or turf grass, the area should be treated at least once with an herbicide, preferably twice with roughly two weeks between treatments, to control vegetation.
(18) Contingency plantings (i.e., increasing the number of trees planted per acre) are not considered appropriate as it can cause overcrowding and decrease the wildlife value of a site. Increasing the number of acres planted as a contingency would be evaluated on a case-by-case basis.

Results of planting bare-root stock vary depending on site conditions. Spring planting is generally preferred, but the stock may not survive flooding. Planting in the fall may be successful, but frost heaving may displace and kill newly planted seedlings, reduce survival rates, and require replanting. As long as bare-root stock is handled properly, survival and growth can be similar to container-grown stock. Planting rates are reduced and wildlife resources tend to be provided more quickly with container grown stock. The use of mulching blankets, erosion control blankets, or turf reinforcement mats helps vegetation become established and reduces erosion during establishment. Summer planting of any size of stock can result in drought stress and mortality if there is no supplemental watering.

Fertilizing is not recommended because fertilizer often benefits weedy species. To help protect a mitigation site from unintended disturbance, "Do Not Mow or Spray" or other similar signs may be erected around the perimeter.

If planting trees is part of mitigation, periodic maintenance may be needed to select and maintain the desired species composition. During the first few years after mitigation plantings, mowing when weeds reach twelve to 18 inches can enhance the establishment of trees and shrubs. Mowing should not occur if the area was seeded with a native seed mixture. Tilling around trees should be avoided and herbicides should be used only if necessary and applied according to directions. In areas with high deer density, maintaining taller weeds may prevent seedlings from being eaten. However, this can result in slower seedling growth and increased damage by mice and other small herbivores.

C. Herbaceous revegetation

Almost all mitigation plans require establishing a native, herbaceous layer. A native herbaceous seed mixture includes at least ten species of grasses, sedges, and wildflowers, with a balance of plant types so no single group dominates. These may be selected from the Herbaceous Riparian Vegetation List in Appendix A. They tolerate full sun early in restoration development and persist to form a native understory in forested areas. Tall fescue is not used in a mitigation plan. Tall fescue is toxic to wildlife and many other plant species, including seedling trees. A native herbaceous seed mixture is compatible with native trees and shrubs and eventually promotes a diversity of food and habitat types for wildlife. If seeding along a slope of 3:1 or steeper, erosion control blankets and similar products provide immediate erosion control and help establish vegetation. Erosion control blankets and similar products need to be biodegradable and net free or use loose-woven / Leno-woven netting to minimize the entrapment and snaring of small-bodied wildlife such as snakes and turtles.

Areas to be seeded that exist as turf or other landscaping grasses should be mowed and sprayed to eliminate the grass and improve survival conditions of native plants. Seed may be applied as a total mix or in several passes if species are not compatible during mixing or application. Fertilizer or amended fillers are not to be used. Seed may be drilled or sliced into the seedbed, or broadcast mechanically or by hand. Areas that are broadcast seeded need light raking for adequate seed-to-soil contact. Seeds are not be placed more than one-eighth (1/8) inch deep. Seeds are to be treated appropriately. Legumes require scarification and others

require exposure to cold temperature, also called stratification.

No idle area is left exposed for more than seven days following grading. An area needing temporary cover should be seeded with a temporary annual grass that does not interfere with the growth of permanent vegetation, or if exposed during the winter, the soil can be stabilized with erosion control blankets or with a bonded fiber matrix hydro-mulch until seeding occurs.

XI. Mitigation Performance

A. Monitoring report

For a mitigation plan, annual submission to the DNR of a monitoring report is a permit condition. Most mitigation projects include three or five years of monitoring beginning after a full growing season elapses from the last planting. Ten years of monitoring may be needed for projects that are complex or develop slowly, such as forested wetland restorations. A report may state that mitigation has not begun. A monitoring report is sent to the Division of Water so a Fish and Wildlife biologist may review the initiation, progress, and success of mitigation. If success is not reached by the end of the monitoring period, a new mitigation plan is submitted that includes an extended monitoring period. Action for a mitigation site that has not succeeded may include regrading, replanting, relocation, and any other reasonable initiative to achieve its purposes.

An annual submission for a monitoring report includes:
(1) At least ten photographs of vegetation.
(2) Identification of the acres planted.
(3) The number of stems planted.
(4) A list of species on-site, including volunteer species.
(5) The estimated survival rates of planted species.
(6) A narrative of the project accomplishments.
(7) Goals achieved.
(8) Plans for the completion of successful mitigation.

A monitoring report submitted to the U.S. Army Corps of Engineers or IDEM may also be submitted as the DNR monitoring report. If the submission does not already include each of the eight elements immediately above, the applicant provides an attachment to include them.

B. Success criteria

Success is based on how effectively a site meets the terms of a mitigation plan. The annual monitoring report describes progress toward meeting the goals, mitigation that is not yet complete, and if there are deficiencies and what is being done to correct them. If the site meets expectations at the end of the monitoring period, the mitigation is deemed successful. The DNR would require additional mitigation and monitoring to correct deficiencies. Success criteria are set forth in the approved mitigation plan.

Measures of success depend on the type of vegetation community and mitigation requirements. Non-wetland forest mitigation success may be measured in the percent survival of planted trees and shrubs. Typical success criteria are seventy-five percent (75%) survival of bare-root and container stock and eighty percent (80%) or greater for one inch to two inches dbh trees up to balled and burlapped stock. Because different impacts and locations result in different spacing requirements between trees, success is based on the percent of the required plant material that survives. Success can be measured by multiplying the number of trees planted by the percentage of survival. For instance, using 3-gallon container canopy trees at 12-foot spacing results in planting 302 trees per acre. The shrub/understory tree component is half of the canopy trees density, which in this example would be 151 shrubs/understory trees per acre. Seventy-five percent (75%) survival would be 227 canopy trees and 113 shrubs/understory trees per acre.

Wetland success criteria involve greater variables, such as:
(1) Density of trees. The DNR would typically seek seventy-five percent (75%) survival of bare-root and container stock, and eighty percent (80%) or greater for larger stock.
(2) The mean vegetative cover after the first year. The DNR would typically seek eighty percent (80%).
(3) The dominance of native perennial species after five years. The DNR would typically seek eighty percent (80%).
(4) The absence of highly invasive species such as purple loosestrife (Lythrum salicaria) and common reed (Phragmites australis).

(5) The minimal presence of other nonnative or invasive plant species. The DNR would typically seek coverage not exceeding ten percent (10%), including cattails (Typha spp.) and reed canary grass (Phalaris arundinacea).
(6) The percentage of cover of open water or bare ground. The DNR would typically seek less than twenty percent (20%).
(7) Restoration of the appropriate number of wetland acres determined from a wetland delineation by the U.S. Army Corps of Engineers.
(8) The DNR would typically also seek a native floristic index value of at least twenty (20) and a native mean coefficient of conservatism value (mean C) of at least 3 to 3.5.

XII. Restrictive Covenants

A mitigation site not located on public property may need protection of a restrictive covenant to provide a reasonable period for successful plant establishment. The DNR may seek agreement for a restrictive covenant that provides ten years of protection.

XIII. Glossary

Avoidance: Adverse impacts are avoided altogether through alteration of project location, design, or other related aspects.

Bioengineered: The combined use of biological elements (plant materials) and structural or mechanical reinforcements for stabilization, revetment, or erosion control. Biological and mechanical elements must function together in an integrated and complementary manner.

Buffers: Habitat, typically native plant communities, that separates riparian habitats and wetlands from surrounding land uses.

Canopy tree: Large trees that upon maturity occupy the highest levels of the forest, typically 60 to 80 feet high or more, and whose branches and leaves shade the lower forest levels.
Compensatory mitigation: The establishment, restoration, enhancement, or protection of ecological functions and values meant to offset those lost through human activity.

Diameter at breast height (dbh): The height of a tree measured at four and one-half (4.5) feet above ground.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of a habitat to heighten, intensify, or improve specific functions or to change the growth stage or composition of the vegetation present. This does not include the increase in habitat acreage and can result in impacts to current conditions.

Floristic Quality Assessment (FQA): Tool to identify the quality of a habitat based on assigned coefficient of conservatism (C) of all plant taxa encountered. The coefficients are ranks of species behavior and represent a confidence level for a taxon's correspondence to anthropogenic disturbances. Coefficients for Indiana taxa have been developed. See Rothrock, June 2004.

Headwater Habitat Evaluation Index (HHEI): A rapid habitat evaluation procedure designed for headwater streams and includes physical and biological assessments to determine stream quality.

Hydrologic Unit Code Area (HUC): Refers to the 8-digit Hydrologic Unit Code Area.

Minimization: In situations where adverse impacts are inevitable, the reduction of impacts to the greatest possible extent through alteration of project location, design, or other related aspects.

Mitigation: Taking action to eliminate, lessen, or replace the loss of environmental benefits and ecological functions where those benefits and functions are disturbed by human activities.

Mitigation Ratio: The ratio of values gained per unit area to values lost per unit area. For example, a ratio of 5 to 1 is equal to five mitigation acres for each acre impacted.

Native: A species known to be historically natural and present at the location and habitat prior to European settlement. Regionally native species that naturally spread into the state following European settlement may also be considered native.

Preservation: The protection of ecologically important habitat in perpetuity through the implementation of appropriate legal and physical mechanisms.

Qualitative Habitat Evaluation Index (QHEI): Tool that combines six metrics based in-stream habitat and surrounding land to gauge a stream's ability to support fish and macroinvertebrate communities.

Restoration: The return of an ecosystem to a close approximation of its condition prior to disturbance; the reestablishment of pre-disturbance functions and related physical, chemical, and biological characteristics; a holistic process not achieved through the isolated manipulation of individual elements.

Understory trees: Trees that upon maturity remain below the larger canopy trees.

XIV. References

Cowardin et al., Classification of Wetlands and Deepwater Habitats of the United States, 1979. Michigan Floristic Quality Assessment

Mushet, David M., Ned H. Euliss, Jr., and Terry L. Shaffer. 2002. Floristic quality assessment of one natural and three restored wetland complexes in North Dakota, USA. Wetlands 22(1):126-138. Jamestown, ND: Northern Prairie Wildlife Research Center.

Rothrock, Paul E. June 2004. Floristic Quality Assessment in Indiana: The Concept, Use, and Development of Coefficients of Conservatism. Final Report for ARN A305-4-53, EPA Wetland Program Development Grant CD975586-01.

Swink, F. and G. Wilhelm. 1994. Plants of the Chicago Region. 4th edition. Indiana Academy of Science, Indianapolis, IN.

XV. History

This information bulletin was first published **in the Indiana Register** on September 1, 1997 ~~at~~ **(**20 IR 3546**)**. ~~The Commission reviewed andaffirmed the bulletin with formatting changes and the addition of a history section o~~**O**n November 14, 2006, the Commission approved~~. Legislative Services Agency posted~~ the First Amendment ~~at~~ **(**20061213-IR-312060562NRA**) updating formatting changes.** On July 17, 2012, theCommission approved ~~as~~ the Second Amendment~~, a complete rewriting of the bulletin, which was posted in the Indiana Register at~~ **(**20120801-IR-312120434NRA**)**, **which was a complete rewrite of this bulletin.** On July 15, 2014, the Commission approved the Third Amendment~~, posted in the Indiana Register at~~ **(**20140806-IR-312140295NRA**)** ~~which made~~ **making** additional refinements and clarifications regarding ~~the~~ planting rates, ~~and~~ spacing of understory and canopy vegetation, ~~and the determination of the~~ **planting** success, **and altered requirements for in-stream mitigation.** ~~of those plantings. For consistency with the requirements of another government agency, requirements for in-stream mitigation were altered. Additional technical amendments were made for clarity.~~ On January 15, 2019, the Commission approved the Fourth Amendment~~, posted in the Indiana Register at~~ **(**20190130-IR-312190041NRA**)** ~~and these amendments made clarifications throughout. The~~ most ~~notable amendments~~ **notably offered** ~~included~~ the ability to adjust mitigation ratios based on various factors, ~~a revision to~~ **revised** mitigation for urban impacts, ~~broken web links,~~ and update~~s~~**d** ~~to~~ the plant lists ~~using current information~~. On May 19, 2020, the Commission approved ~~this~~ **the** Fifth Amendment **(20200527-IR-312200284NRA),** making miscellaneous stylistic changes, expressly recognizing the practice of considering the content of the bulletin in the context of the Lakes Preservation Act and in the remediation of violations. **On xx, 2021, the Commission approved this Sixth Amendment updating references and making other technical amendments.**

Appendix A -- Mitigation Plant Species

Woody Riparian Vegetation List

Common name	Scientific name	Region 3 status	Type of plant	Tree, Shrub, Vine	Region (N, C, S)	Coefficient of Conservatism	Comment
Box Elder	Acer negundo	FAC	Large Understory Tree	T	N, C, S	1	Only occasionally recommended
Black Maple	Acer nigrum	FACU	Large Canopy Tree	T	N, C, S	6	
Red Maple	Acer rubrum	FAC	Large Canopy Tree	T	N, C, S	5	

Silver Maple	Acer saccharinum	FACW	Large Canopy Tree	T	N, C, S	1	Only occasionally recommended
Sugar Maple	Acer saccharum	FACU	Large Canopy Tree	T	N, C, S	4	
Ohio Buckeye	Aesculus glabra	FAC	Large Understory Tree	T	N, C, S	5	
Indigobush	Amorpha fruticosa	FACW	Medium Shrub	S	S	3	FACW
Common Paw Paw	Asimina triloba	FAC	Small Understory Tree	T	N, C, S	6	
River Birch	Betula nigra	FACW	Small Canopy Tree	T	N, S	2	
American Hornbeam	Carpinus caroliniana	FAC	Medium Understory Tree	T	N, C, S	5	
Bitternut Hickory	Carya cordiformis	FACU	Large Canopy Tree	T	N, C, S	5	
Pecan	Carya illinoensis	FACW	Large Canopy Tree	T	S*	4	Extreme southwestern counties
Shellbark Hickory	Carya laciniosa	FACW	Large Canopy Tree	T	N, C, S	8	
Shagbark Hickory	Carya ovata	FACU	Large Canopy Tree	T	N, C, S	4	
Sugarberry	Celtis laevigata	FACW	Large Understory Tree	T	S	7	
Hackberry	Celtis occidentalis	FAC	Large Canopy Tree	T	N, C, S	3	
Buttonbush	Cephalanthus occidentalis	OBL	Medium Shrub	S	N, C, S	5	
Redbud	Cercis canadensis	FACU	Small Understory Tree	T	N, C, S	3	
Alternate-leaf Dogwood	Cornus alternifolia	FAC	Small Understory Tree	T	N, C, S	8	
Roughleaf Dogwood	Cornus drummondii	FAC	Medium Shrub	S	N, C, S	2	
Flowering Dogwood	Cornus florida	FACU	Small Understory Tree	T	N, C, S	4	Susceptible to dogwood anthracnose
Pale Dogwood (formerly Silky Dogwood)	Cornus obliqua	FACW	Medium Shrub	S	N, C, S	5	
Gray Dogwood	Cornus racemosa	FAC	Medium Shrub	S	N, C, S	2	
Red-osier Dogwood	Cornus sericea (aka (C. alba))	FACW	Medium Shrub	S	N	4	
Hazelnut	Corylus americana	FACU	Medium Shrub	S	N, C, S	4	
Cockspur Hawthorn	Crataegus crus-galli	FAC	Small Understory Tree	T	N, C, S	4	
Downy Hawthorn	Crataegus mollis	FAC	Small Understory Tree	T	N, C, S	2	
Dotted Hawthorn	Crataegus punctata		Small Understory Tree	T	N, C, S	2	Okay in floodplains; not in extreme southwestern counties
Persimmon	Diospyros virginiana	FAC	Medium Understory Tree	T	S	2	
American Beech	Fagus grandifolia	FACU	Large Canopy Tree	T	N, C, S	8	
Honey Locust	Gleditsia triacanthos	FACU	Small Canopy Tree	T	N, C, S	1	

Kentucky Coffeetree	Gymnocladus dioicus		Large Canopy Tree	T	N, C, S	4	
Witch Hazel	Hamamelis virginiana	FACU	Medium Shrub	T	N, C, S	5	
Smooth Hydrangea	Hydrangea arborescens	FACU	Small Shrub	S	N, C, S	7	
Common Winterberry	Ilex verticillata	FACW	Medium Shrub	S	N, C, S	8	
Butternut (White Walnut)	Juglans cinerea	FACU	Small Canopy Tree	T	N, C, S	5	Scattered within range; susceptible to butternut canker
Black Walnut	Juglans nigra	FACU	Large Canopy Tree	T	N, C, S	2	
Spicebush	Lindera benzoin	FACW	Medium Shrub	S	N, C, S	5	
Sweet Gum	Liquidambar styraciflua	FACW	Large Canopy Tree	T	S	4	
Tuliptree	Liriodendron tulipifera	FACU	Large Canopy Tree	T	N, C, S	4	
Wild Sweet Crabapple	Malus coronaria		Medium Understory Tree	T	N, C, S		
Black Gum	Nyssa sylvatica	FAC	Medium Canopy Tree	T	N, C, S	5	
Hop Hornbeam	Ostrya virginiana	FACU	Medium Understory Tree	T	N, C, S	5	
Purple Chokeberry	Photinia floribunda (formerly Aronia prunifolia)	FACW	Medium Shrub	S	N	8	
Black Chokeberry	Photinia melanocarpa (formerly Aronia melanocarpa)	FACW	Medium Shrub	S	N, C, S	8	
Common Ninebark	Physocarpus opulifolius	FACW	Small Shrub	S	N, C, S	7	
American Sycamore	Platanus occidentalis	FACW	Large Canopy Tree	T	N, C, S	3	
Eastern Cottonwood	Populus deltoides	FAC	Large Canopy Tree	T	N, C, S	1	Only occasionally recommended
Swamp Cottonwood	Populus heterophylla	OBL	Large Canopy Tree	T	N, S	8	Scattered within its range
Quaking Aspen	Populus tremuloides	FAC	Small Canopy Tree	T	N	2	
American Plum	Prunus americana	UPL	Small Understory Tree	T	N, C, S	4	Also along riverbanks
Black Cherry	Prunus serotina	FACU	Small Canopy Tree	T	N, C, S	1	
Common Hop-tree	Ptelea trifoliata	FACU	Medium Shrub	S	N, C, S	4	
White Oak	Quercus alba	FACU	Large Canopy Tree	T	N, C, S	5	
Swamp White Oak	Quercus bicolor	FACW	Large Canopy Tree	T	N, C, S	7	
Southern Red Oak	Quercus falcata	FACU	Med.-Lg. Canopy Tree	T	S*	5	Far southern and southwestern counties
Shingle Oak	Quercus imbricari	FACU	Medium Canopy Tree	T	N, C, S	3	
Overcup Oak	Quercus	OBL	Medium Canopy	T	S*	7	Extreme

	lyrata		Tree				southwestern counties
Bur Oak	Quercus macrocarpa	FAC	Large Canopy Tree	T	N, C, S	5	
Swamp Chestnut Oak	Quercus michauxii	FACW	Med.-Lg. Canopy Tree	T	S*	7	Far southern and southwestern counties
Chinkapin Oak	Quercus muehlenbergii	FACU	Med.-Lg. Canopy Tree	T	N, C, S	4	Also along well-drained riverbanks
Pin Oak	Quercus palustris	FACW	Small Canopy Tree	T	N, C, S	3	
Northern Red Oak	Quercus rubra	FACU	Large Canopy Tree	T	N, C, S	4	
Shumard Oak	Quercus shumardii	FACW	Large Canopy Tree	T	C, S	7	
Post Oak	Quercus stellata	FACU	Sm.-Med. Canopy Tree	T	S*	5	Seasonally swampy woods in SW counties
Staghorn Sumac	Rhus typhina		Large Shrub	S	N	2	
Pasture Gooseberry	Ribes cynosbati	FAC	Small Shrub	S	N, C, S	4	
Carolina Rose	Rosa carolina	FACU	Small Shrub	S	N, C, S	4	
Peachleaf Willow	Salix amygdaloides	FACW	Small Understory Tree	T	N	4	
Sandbar Willow	Salix interior	FACW	Medium Shrub	S	N, C, S	1	
Black Willow	Salix nigra	OBL	Large Understory Tree	T	N, C, S	3	
Elderberry	Sambucus canadensis (or S. nigra ssp canadensis)	FAC	Medium Shrub	S	N, C, S	2	
American Bladdernut	Staphylea trifolia	FAC	Medium Shrub	S	N, C, S	5	
Bald Cypress	Taxodium distichum	OBL	Large Canopy Tree	T	S*	10	Only in portions of Vanderburgh, Posey, Warrick, Knox, Gibson Co.
American Basswood	Tilia americana	FACU	Large Canopy Tree	T	N, C, S	5	
Nannyberry	Viburnum lentago	FAC	Medium Shrub	S	N	5	
Black Haw	Viburnum prunifolium	FACU	Medium Shrub	S	N, C, S	4	
Prickly ash	Zanthoxylum americanum	FACU	Medium Shrub	S	N	3	

Herbaceous Riparian Vegetation List

Common Name	Scientific Name	Size / Class	Indicator
White Snakeroot	Ageratina altissima	wildflower	FACU
Hog-Peanut	Amphicarpaea bracteata	herbaceous vine	FAC
Ground-Nut	Apios americana	herbaceous vine	FACW
False Nettle	Boehmeria cylindrica	wildflower	OBL
Blue-Joint Grass	Calamagrostis canadensis	grass	OBL
Emory's Sedge	Carex emoryi	sedge	OBL
Shoreline Sedge	Carex hyalinolepis	sedge	OBL

Lakebank Sedge	Carex lacustris	sedge	OBL
Larger Straw Sedge	Carex normalis	sedge	FACW
Hairy-Fruit Sedge	Carex trichocarpa	sedge	OBL
Fox Sedge	Carex vulpinoidea	sedge	FACW
Wild or Streambank Chervil	Chaerophyllum procumbens	wildflower	FACW
Wood-Reed	Cinna arundinacea	grass	FACW
Honewort	Cryptotaenia canadensis	wildflower	FAC
Wild Cucumber	Echinocystis lobata	herbaceous vine	FACW
Canada Wild Rye	Elymus canadensis	grass	FACU
Bottlebrush Grass	Elymus hystrix	grass	FACU
Riverbank Wild Rye	Elymus riparius	grass	FACW
Virginia Wild Rye	Elymus virginicus	grass	FACW
Boneset	Eupatorium perfoliatum	wildflower	OBL
Spotted Joe-Pye-Weed	Eutrochium maculatum	wildflower	OBL
White Avens	Geum canadense	wildflower	FAC
Fowl Manna Grass	Glyceria striata	grass	OBL
False Sunflower	Heliopsis helianthoides	wildflower	FACU
Orange Jewelweed	Impatiens capensis	wildflower	FACW
Yellow Jewelweed	Impatiens pallida	wildflower	FACW
Soft Rush	Juncus effusus	rush	OBL
Wood Nettle	Laportea canadensis	wildflower	FACW
Rice Cut Grass	Leersia oryzoides	grass	OBL
White Grass	Leersia virginica	grass	FACW
Great Blue Lobelia	Lobelia siphilitica	wildflower	OBL
American Bugleweed	Lycopus americanus	wildflower	OBL
Virginia Blue Bells	Mertensia virginica	wildflower	FACW
Hairy Sweet-Cicely	Osmorhiza claytonii	wildflower	FACU
Switch Grass	Panicum virgatum	grass	FAC
Wild Blue Phlox	Phlox divaricata	wildflower	FACU
Clearweed	Pilea pumila	wildflower	FACW
Green-Headed Coneflower	Rudbeckia laciniata	wildflower	FACW
Brown-Eyed Susan	Rudbeckia triloba	wildflower	FACU
Clustered Black-Snakeroot	Sanicula odorata	wildflower	FAC
River Bulrush	Schoenoplectus fluviatilis	bulrush	OBL
Soft-Stem Bulrush	Schoenoplectus tabernaemontani	bulrush	OBL
Dark Green Bulrush	Scirpus atrovirens	bulrush	OBL
Wool-Grass	Scirpus cyperinus	bulrush	OBL
Drooping Bulrush	Scirpus pendulus	bulrush	OBL
Cup-Plant	Silphium perfoliatum	wildflower	FACW
Late Goldenrod	Solidago gigantea	wildflower	FACW
Prairie Cordgrass	Spartina pectinata	grass	FACW
Panicled Aster	Symphyotrichum lanceolatum	wildflower	FAC
Side-Flowering Aster	Symphyotrichum lateriflorum	wildflower	FACW
American Germander	Teucrium canadense	wildflower	FACW
Blue Vervain	Verbena hastata	wildflower	FACW
Wingstem	Verbesina alternifolia	wildflower	FACW

Plant names and wetland status from Midwest 2016 Regional Wetland Plant List: Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X.

NATURAL RESOURCES COMMISSION

Information Bulletin #18 (~~First~~ Second Amendment)

SUBJECT: Hometown Indiana Grant Distributions

1. Purpose
Rules were adopted at 312 IAC 26 (effective January 2, 1998), which apply to the Hometown Indiana Grant Program. The purpose of this information bulletin is to establish overall distribution of funding amounts for eligibility under the program. As determined by a resolution of the natural resources commission adopted during its December 1997 meeting, overall distributions are as follows:

70% is eligible for grants to community parks and recreation areas. This distribution is administered in the department of natural resources primarily by the division of ~~outdoor recreation~~ **state parks**.

20% is eligible for grants to the historic preservation of real property. This distribution is administered in the department of natural resources primarily by the division of historic preservation and archaeology.

10% is eligible for grants to community forestry. This distribution is administered in the department of natural resources primarily by the division of forestry.

These distributions apply unless the terms of an appropriation provide otherwise or would make application of these distributions impracticable.

2. History
This Information Bulletin ~~#18 (21 IR 2226)~~ was **first published in the Indiana Register** ~~approved by the Natural Resources Commission~~ **on March 1, 1998 (21 IR 2226).** On January 16, 2007, the Commission reaffirmed this Information Bulletin **approving the First Amendment (20070214-IR-312070079NRA)**.
On xx, 2021, the Commission approved this Second Amendment making technical amendments.

NATURAL RESOURCES COMMISSION

Information Bulletin #30 (~~First~~ Second Amendment)

SUBJECT: Mountain Bikes on DNR Properties

1. Introduction
This document establishes policies and guidelines to govern recreational mountain bike use on a DNR property (as defined at ~~312 IAC 8-1-4(3))~~ **312 IAC 8-1.5-6)**. The purpose of this information bulletin is to assure consistent, fiscally and ecologically sound decision making is followed in managing recreational mountain bike use on DNR properties.

Mountain biking is a valid recreational use of certain DNR properties. As a result of the Statewide Comprehensive Outdoor Recreation Planning process, research into the outdoor recreation participation habits indicates mountain biking is one of the fastest growing outdoor recreation activities.

Mountain biking will be allowed on designated trails that are constructed or converted and maintained to recognized standards. These trails will be non-technical in nature and may be designated by the Department of Natural Resources (the DNR) in locations and lengths that do not unacceptably alter the environment, natural resources, or the existing or historic recreational opportunities of the area. This bulletin does not authorize the use of mountain bikes except at localities approved by the DNR and as conditioned here and on-site by the DNR.

2. Mountain Biking History and Background
Mountain biking is a relatively new sport and activity. In the last 25 years, mountain bikes have gone from being unheard of to the number one type of bike sold in the United States. Bicycles were originally a means of transportation, and they are still used that way today. The first mountain bikes were nothing more than road bikes with fat tires. Today's mountain bikes are technological marvels, with 24 or more gears, aluminum alloy frames, and even suspension systems. The off-road cyclist is looking for more riding areas to test both the rider and bicycle and to experience the outdoors while covering much more ground than the average hiker.

The Huntington Reservoir Mountain Bike Pilot Project has demonstrated the management of a mountain bike trail is feasible on some state properties. This information bulletin is intended ensure future bike trails adhere to sound management practices and that trails will be made available to more riders throughout the state.

3. Policy Statements
A. "Mountain bike" defined
The term "mountain bike" refers to non-motorized bicycles designed or used for off-road travel.

B. Trail construction and maintenance
Mountain bike trails shall be maintained using current International Mountain Bicycling Association standards. Trail density and carrying capacity will be determined and reviewed by the DNR as needed.

C. Mountain bike access to DNR properties
Access to DNR properties by mountain bikes is limited to designated public entrances. Public entrances are defined as day-use parking areas, designated trailheads and (for ride-on users only - no vehicle or trailer access allowed) those sites where designated mountain bike trails intersect a public roadway.

When trails exist in gated DNR property, users must enter through the gate and pay applicable fees.

Access from adjacent private property is authorized only if each of the following conditions is met:

1. The property is not gated.
2. The access is made a designated public trailhead for all mountain bike users with the landowner accepting liability, in writing, for public access through the property; or the landowner grants the DNR a recreation access easement.
3. The development of an access does not conflict with another section or subsection of this information bulletin, and the access is consistent with the property plan for mountain bicycle trail management.

D. Multiple use and single use trails
Mountain bike trails on DNR properties shall be designated as mountain bike only, multiple use bicycles included, or otherwise identified special use trails. The use designation shall be based on resource, recreation, or maintenance considerations. Mountain bikes will be allowed only on trails or areas designated for this use (312 IAC 8-2-1).

E. Special event rides
The DNR may issue a license for a special event trail ride under the following conditions:

1. The event is limited in size so as not to exceed the specified carrying capacity of the facilities.
2. The sponsor of the event obtains a special event license from the DNR. The special event license shall contain appropriate conditions and deposit fees as determined by the property manager.
3. The property manager must pre-approve the use of all trails and facilities to be used for special events.
4. All special events shall comply with 312 IAC 8.

F. DNR properties that provide mountain bike trails
The decision to authorize a mountain bike trail on a DNR property is made by the division responsible for the management of the property. The decision shall be based on the division's mission statement, environmental considerations, and this information bulletin.

As a prerequisite to authorizing a mountain bike trail, a DNR property shall support a minimum of five (5) miles of continuous or connected mountain bike trail. In addition, the DNR will not add new or expand existing mountain bike facilities until each of the following conditions is met:

1. The facilities meet the DNR mountain bicycle trail standards.
2. Adequate funding is available to assure proper operation and maintenance of the facilities.
3. The need for additional facilities is verified.

G. Safety
The following standards apply to promote public safety:

1. Trails shall have a speed limit of 15 miles per hour on all multiple-use trails.
2. On multiple-use trails, mountain bike riders must yield to all other users.
3. The designation of a public vehicle road as a bike trail is limited to where no other trail routing is feasible. Trails currently using public vehicle roads should be re-routed to avoid this conflict. Every effort will be made to minimize the use by mountain bikes on the driving surface of a public vehicle road.

H. Volunteers and donations
The DNR shall actively pursue cooperative programs with individuals or groups wishing to volunteer services or donate funds or materials to improve facilities on DNR properties. Donations and volunteer efforts will be used only within a structured program approved by the division and consistent with this information bulletin and the goals of the property, the division and the DNR. These structured programs will be jointly developed by property staff and volunteers whenever possible and will focus on bringing existing facilities up to standards before considering expansion or creating new trails or facilities. For each program, the property manager will define in writing what, if any, special privileges or conditions will be accorded to volunteers within that program.

I. Concessionaires
Any person, group, or firm that engages in business on a DNR property, or uses the property as the base for, or as part of, any for-profit business, must have a written contract or vendor's permit for operation from the DNR.

J. Education
To the extent practicable, the DNR shall provide users with information on the impacts of recreational use, methods of minimizing negative impacts, trail ethics and general natural resource information.

K. Closures
The property manager may temporarily close a bike trail, or a portion of a bike trail, where reasonably required to protect public safety.

An authorized representative (as defined at ~~312 IAC 8-1-4(1))~~ **312 IAC 8-1.5-3)** may temporarily close a bike trail, or a portion of abike trail, or may restrict users on a bike trail, for any of the following purposes:

1. Protection of public safety.
2. Protection of the environment.
3. Prevention of damage to the trail.
4. Trail maintenance or rotation.

The DNR director may close or restrict the use of a bike trail for any reason determined in the director's exercise of sound discretion.

Before implementing a closure, the DNR shall seek to minimize the negative impact on the recreational opportunities of all users. A closure should be conspicuously signed.

4. History

This Information Bulletin ~~#30 (24 IR 2262)~~ was **first published in the Indiana Register on** ~~approved by the Natural Resources Commission on February 21, 2001,and became effective~~ April 1, 2001 **(24 IR 2262)**. On January 16, 2007, the Commission reaffirmed this information bulletin **approving the First Amendment (20070214-IR-312070081NRA). On xx, 2021, the Commission approved this Second Amendment making technical amendments.**

NATURAL RESOURCES COMMISSION

Information Bulletin #35 (~~First~~ Second Amendment)

SUBJECT: Type I and Type II Marine Sanitation Devices on Navigable Waters of Indiana

This information bulletin identifies Indiana rivers, streams, and lakes where a person can lawfully operate a Type I Marine Sanitation Device ("Type I MSD") or a Type II Marine Sanitation Device ("Type II MSD") on a motorboat. The bulletin was prepared by the Department of Natural Resources, Division of Law Enforcement, in consultation with the U. S. Coast Guard. ~~The natural resources commission approved this bulletin in 2002, and the bulletin was published in the January 1, 2003 Indiana Register (26 IR 1380). This bulletin was amended to update citations, and on January 16, 2007, the Commission reaffirmed this information bulletin.~~

The use of marine sanitation devices is governed by federal statutes and regulations–particularly those promulgated by the U.S. Coast Guard and the U.S. Environmental Protection Agency. A "marine sanitation device" refers to any equipment for installation on board a boat that is designed to receive, retain, treat, or discharge sewage, and any process to treat such sewage. A Type I MSD means one that, under federal testing, produces an effluent having a fecal coliform bacteria count not greater than 1,000 per 100 milliliters and no visible floating solids. A Type II MSD means one that, under the federal testing, produces an effluent having a fecal coliform bacteria count not greater than 200 per 100 milliliters and suspended solids not greater than 150 milligrams per liter.

A "Type III marine sanitation device" ("Type III MSD") means one that is designed to prevent the overboard discharge of treated or untreated sewage or any waste derived from sewage. A Type III MSD is sometimes referred to as a holding tank and does not provide for the treatment of sewage. Waste from a Type III MSD must be disposed through a licensed pumpout facility. This information bulletin is not primarily directed to the use of Type III MSDs.

Both a device and a waterway must qualify if sewage is to be lawfully discharged through a Type I MSD or a Type II MSD. For the device to qualify, it must be approved by the U.S. Coast Guard and must be properly maintained and operated. For a waterway to qualify, it must be (1) legally navigable; and, (2) suitable, in fact, for direct interstate boating transportation. A Type I MSD or Type II MSD cannot be used upstream from where a natural or man-made obstruction in the waterway reasonably prevents a boat from advancing. The waterways in Indiana where a Type I MSD or a Type II MSD may lawfully be used are those that can, in fact, be traveled by a boat large enough to be equipped with a Marine Sanitation Device. Use of a Type I MSD or Type II MSD on waters other than those listed in this information bulletin is unlawful.

Improper use of a Type I MSD or a Type II MSD is a violation of federal law, enforced primarily through the U.S. Coast Guard. In addition, the Natural Resources Commission has incorporated this portion of the regulations into state rules, so improper use of a Type I MSD or a Type II MSD is also a violation of state law, enforced primarily through the Division of Law Enforcement. See particularly 312 IAC 5-5-2(c): "A person who maintains or operates a watercraft, upon Lake Michigan or another waterway described in 40 CFR 140.3, that is equipped with a Type I marine sanitation device or a Type II marine sanitation device, must comply with 33 CFR 159 and 40 CFR 140."

~~The Natural Resources Commission previously identified its "Roster of Indiana Waters Declared Navigable or Nonnavigable" in Information Bulletin #3 (First Amendment) published at 20 Indiana Register 2920-2939 (July 1, 1997) with a listing by county also available at http://www.in.gov/nrc/policy/IV.html. https://www.in.gov/nrc/nonrule-policy-documents-npd/navigable-waterways-roster/roster-by-county/ In 2006, the commission updated this citation, and Information Bulletin #3 (Second Amendment) was posted as 20061011-IR-312060440NRA in the Indiana Register~~. The waterways where a Type I MSD or a Type II MSD may be lawfully used in Indiana are as follows:

Clark County
- **(1) Fourteen Mile Creek:** 0.6 river miles upstream from its junction with the Ohio River
- **(2) Ohio River**
- **(3) Silver Creek:** 0.78 river miles from its junction with the Ohio River (S.R. 62 Bridge)

Crawford County
- **(1) Big Blue River:** 3.0 river miles upstream from its junction with the Ohio River
- **(2) Little Blue River:** 3.6 river miles upstream from its junction with the Ohio River
- **(3) Ohio River**

Dearborn County
- **(1) Great Miami River:** Throughout the county

(2) Hogan Creek (including North Fork and South Fork): Hogan Creek (Main Stem) from its junction with the Ohio River for the entire length (0.4 river miles); North Fork of Hogan Creek from its junction with Hogan Creek for 4.9 river miles; and, South Fork of Hogan Creek from its junction with Hogan Creek for 5.0 river miles
(3) Laughery Creek: 6.0 river miles upstream from its junction with the Ohio River
(4) Ohio River
(5) Tanners Creek: 10.6 river miles upstream from its junction with the Ohio River
(6) Whitewater River: Throughout the county
(7) Wilson Creek: 1.9 river miles upstream from its junction with the Ohio River

Harrison County
(1) Big Blue River: 3.0 river miles upstream from its junction with the Ohio River.
(2) Buck Creek: 0.3 river miles upstream from its junction with the Ohio River
(3) Indian Creek: 0.9 river miles upstream from its junction with the Ohio River.
(4) Mosquito Creek: 0.25 river miles upstream from its junction with the Ohio River
(5) Ohio River

Floyd County
(1) Ohio River
(2) Silver Creek: 0.78 river miles from its junction with the Ohio River (S.R. 62 Bridge)

Jefferson County
(1) Indian-Kentuck Creek: 2.2 river miles upstream from its junction with the Ohio River
(2) Ohio River

Lake County
(1) Indiana Harbor and Ship Canal: from the entrance on Lake Michigan to the Outer Harbor Basin. On the Outer Harbor Basin, for 1.4 river miles to the Turning Basin at the Forks of the Calumet River Branch and Lake George Branch. On the Calumet River Branch southward for 0.4 river miles (Columbus Drive Street Bridge). On the Lake George Branch for 0.6 river miles to where it dead-ends.
(2) Lake Michigan

LaPorte County
(1) Lake Michigan
(2) Trail Creek: upstream for 1.0 river miles from its junction with Lake Michigan

Ohio County
(1) Arnold Creek: 0.25 river miles upstream from its junction with the Ohio River
(2) Laughery Creek: 6.0 river miles upstream from its junction with the Ohio River.
(3) Ohio River

Perry County
(1) Anderson River: 0.11 river miles upstream from its junction with the Ohio River
(2) Big Oil Creek: 0.05 river miles from its junction with the Ohio River (S.R. 66 Bridge)
(3) Deer Creek: 0.03 river miles from its junction with the Ohio River (S.R. 66 Bridge)
(4) Ohio River

Porter County
(1) Burns Ditch: See **Portage Burns Waterway**
(2) Portage Burns Waterway: For its entirety (1.3 river miles) as a connection between the Little Calumet River and Lake Michigan
(3) Lake Michigan
(4) Little Calumet River: On the West Fork of the Little Calumet River for 1.5 river miles (South Shore Marina). On the East Fork of the Little Calumet River for 1.5 river miles (where it forms a "Y")

Posey County
(1) Big Creek: 5.4 river miles upstream from its junction with the Ohio River
(2) McFadden Creek: 0.3 river miles upstream from its junction with the Ohio River
(3) New Harmony Cut-Off: 0.72 river miles upstream from its downstream junction with the Wabash River
(4) Ohio River
(5) Wabash River: 42.5 river miles upstream from its junction with the Ohio River

Spencer County
(1) Anderson River: 0.11 river miles upstream from its junction with the Ohio River
(2) Ohio River
(3) Sandy Creek: 2.6 river miles upstream from its junction with the Ohio River

Switzerland County
(1) Bryant Creek: 2.6 river miles upstream from its junction with the Ohio River
(2) Goose Creek: 0.5 river miles upstream from its junction with the Ohio River
(3) Grants Creek: 2.5 river miles upstream from its junction with the Ohio River
(4) Indian Creek: 4.1 river miles upstream from its junction with the Ohio River
(5) Ohio River

(6) Plum Creek: 1.25 river miles upstream from its junction with the Ohio River for 2.9 river miles
(7) Turtle Creek: 1.3 river miles from its junction with the Ohio River

Vanderburgh County

(1) Bayou Creek: 0.06 river miles upstream from its junction with the Ohio River
(2) Ohio River
(3) Pigeon Creek: 0.03 river miles upstream from its junction with the Ohio River (the 1891 Ohio Street Bridge)

Warrick County

(1) Little Pigeon Creek: 1.5 river miles upstream from its junction with the Ohio River (Yankeetown Bridge on C.R. 250W)
(2) Ohio River

History

This Information bulletin was first published in the Indiana Register on January 1, 2003 (26 IR 1380). On January 16, 2007, the Commission approved the First Amendment (20070214-IR-312070082NRA) updating citations. On xx, 2021, the Commission approved this Second Amendment making technical amendments.

NATURAL RESOURCES COMMISSION

Information Bulletin #37 (~~Second~~ Third Amendment)

SUBJECT: Submission and Review of Hydraulic Modeling for Permit Applications under the Flood Control Act

1. Background

The Flood Control Act (IC 14-28-1) prohibits the construction of residences or abodes within a floodway and requires all other construction, excavation, or filling activities within a floodway to receive prior written approval from the Department of Natural Resources (the "Department"). With regard to the Department's approval, the Act further states that the director shall issue a permit only if in the opinion of the director the applicant has clearly proven that the structure, obstruction, deposit, or excavation will not do any of the following:

(1) Adversely affect the efficiency of or unduly restrict the capacity of the floodway.

(2) Constitute an unreasonable hazard to the safety of life or property.

(3) Result in unreasonably detrimental effects upon fish, wildlife, or botanical resources.

In deciding whether to issue a permit, the director shall consider the cumulative effects of the structure, obstruction, deposit, or excavation when added to past, present, and reasonably foreseeable future actions.

Modeling guidelines (General Guidelines for the Hydrologic – Hydraulic Assessment of Floodplains in Indiana) were developed and published by the Department's Division of Water and are available on the Division's website at:

~~www.in.gov/dnr/water/files/fp_guidelines.pdf~~

https://www.in.gov/dnr/water/surface-water/indiana-floodplain-mapping/general-guidelines-for-the-hydrologic-hydraulic-assessment/

Training sessions were held in 2002 in Plymouth, Indianapolis, and Jeffersonville to assist consultants in the development of effective flood modeling submittals. The Natural Resources Commission endorsed the General Guidelines in this Information Bulletin published on May 1, 2003, in the Indiana Register at 26 IR 2701.

As a consequence, the Division of Water no longer participates directly in project specific flood model development as part of a permit application. Personnel in the Division of Water serve as reviewers.

2. Review Procedures

The procedures for the review of submitted computer modeling as part of a permit application are as follows:

- All submitted modeling is evaluated based on the modeling guidelines outlined in the General Guidelines for the Hydrologic – Hydraulic Assessment of Floodplains in Indiana.
- Submitted modeling should be prepared under the supervision of a professional engineer with knowledge of generally accepted modeling principles.
- Within the Division of Water, Engineering Services Center (ESC) staff is available to meet with a consultant to discuss modeling for a project, or to answer questions that a consultant may have in the process of developing a model. ESC staff does not perform a preliminary review of a model before a permit application is submitted.
- A submitted model should be accompanied by a completed modeling checklist and project evaluation table as described in the General Guidelines for the Hydrologic – Hydraulic Assessment of Floodplains in Indiana. Refusal to submit this information will result in the denial of the permit application.
- ESC staff will comment on modeling using the abeyance process but will not change models or correct explicit modeling errors.
- Only explicit modeling errors will be noted and identified as deficiencies. The rationale behind any aspects of the submitted modeling that are "engineering judgment" (such as Manning's "n" values or coefficients) should be documented in the submitted checklist or model report. Failure to document "engineering judgment" is an explicit modeling error.
- An abeyance determination may state the comments are not inclusive. If the modeling is incomplete or contains inaccurate or outdated data, mistakes may not be apparent until the applicant clarifies the model.
- ESC staff is available to discuss projects before a submittal or after an abeyance letter is mailed. Design details are the responsibility of the applicant and the consultant. ESC staff will not suggest design changes to make a project approvable.
- A model submittal with a project evaluation table that shows an excessive surcharge as a result of the proposed project will not be reviewed. The applicant will be notified through an abeyance letter that the project as submitted is not approvable. ESC staff may review model submittals with excessive surcharges if the applicant:

  (a) clearly demonstrates that the surcharge is contained entirely on the applicant's property; or

  (b) identifies the project as a public works project for which flood easements have been or will be secured

for all areas subject to excessive surcharges.

• The initial abeyance period for model revisions is 45 days. Upon written request by the applicant, ESC staff may grant extensions of time.

• The applicant is responsible for supporting the technical merits of modeling or project alternatives. ESC staff would **provide testimony as to** the circumstances of their review.

3. History

This information bulletin was approved by the Commission and published **in the Indiana Register** on May 1, 2003~~, in the Indiana Register at~~ **(**26 IR 2701**)**. On January 16, 2007, the Commission reaffirmed th~~is~~**e** ~~information bulletin~~ **First Amendment (20070214-IR-312070083NRA)** ~~and added a history line~~. On July 19, 2011, the Commission **approved the Second Amendment (20110803-IR-312110433NRA)** ~~amended the information bulletin~~ to conform to current practice and to update website links. **On xx, 2021, the Commission approved this Third Amendment updating URL links and making other technical amendments.**

NATURAL RESOURCES COMMISSION

Information Bulletin #43 (~~Second~~ Third Amendment)
~~June 1, 2013~~

SUBJECT: Coastal Zone Management Federal Consistency Reviews

A. Purpose
This information bulletin summarizes implementation of "federal consistency" reviews by the Indiana Lake Michigan Coastal Program (the "LMCP"). The reviews are coordinated ~~through~~ **with** the Environmental Unit (the "Environmental Unit") of the Division of Fish and Wildlife, Department of Natural Resources. Pursuant to "federal consistency" requirements, a federal action that has reasonably foreseeable effects on a land or water use of the Indiana Lake Michigan Coastal Program Area must be consistent with the state laws described in Indiana's program. Federal activities are those that (1) are performed by a federal agency or its contractor; (2) require a federal license or another form of federal approval; or, (3) provide federal financial assistance to state or local government. The purpose of this information bulletin is to maximize benefits to the Lake Michigan Coastal Area while minimizing burdens to the state and its citizens, and the bulletin should be liberally construed to accomplish this purpose.

B. Overview
In general, a federal consistency review must be submitted:
- By a federal agency conducting an activity that will affect the Lake Michigan Coastal Area;
- By an applicant for a federal license for an activity that will affect the Lake Michigan Coastal Area; or
- By an applicant for a federal assistance project that will affect the Lake Michigan Coastal Area.

Not all federal agency, permit, or financial assistance actions require a federal consistency review and certification. Indiana reviews and lists actions deemed to potentially have an environmental impact to the coastal resources of the state. The list of activities that automatically require a consistency review is presented in Section III: Lists of Federal Activities Subject to Federal Consistency of this document. The ~~Environmental Unit~~ **LMCP** may, however, require a consistency review and certification for unlisted activities if there is substantial belief those activities would have more than a de minimis impact on Indiana's coastal resources.

The term "federal consistency" refers to the requirement of the Coastal Zone Management Act (CZMA), 16 U.S.C. 1451, 1456 et seq., and implementing regulations at 15 CFR Part 930, that certain federal actions affecting any land or water use or natural resource of a state's coastal zone shall be consistent with the state's federally approved coastal program. Indiana's coastal program is based upon existing state laws, which are considered as Indiana's enforceable policies for the purposes of federal consistency. Federal consistency is required for the state laws described in Chapter 5: Existing Management Authorities of the Lake Michigan Coastal Zone Program Document. ~~at:~~

~~http://www.in.gov/dnr/lakemich/files/feis-iich5-ptvi.pdf~~

It is important to note that Indiana's decisions for federal consistency purposes will be based on whether an existing state law, as described in Chapter 5 of the Lake Michigan Coastal Zone Program Document, would apply to the proposed action. Consistency is required only of actions addressed by state law, regardless of whether it is conducted by a local, state, or federal entity. Please refer to the cross-reference tables in that document for guidance on which activities are applicable to federal consistency.

The following federal actions are subject to federal consistency:
1. federal agency activities;
2. federal license or permit activities- activities by private enterprise or by state or local government which require federal approval of some form; and
3. federal financial assistance to state and local governments.

A federal agency activity is any function performed by, or on behalf of, a federal agency in the exercise of its statutory responsibilities, but does not include the granting of a federal license or permit. However, the term includes federal development projects, which involve the planning, construction, modification, or removal of public works, facilities, or other structures, and the acquisition, use, or disposal of land or water resources. To be consistent with the CZMA, Indiana requires that any federal agency activity that affects Indiana's coastal zone be carried out in a manner "consistent to the maximum extent practicable" with state law.

Federal license or permit requirements are detailed at 16 U.S.C.1456(c)(3)(A), and at 15 CFR Part 930 Subpart

D. An applicant for a federal license or permit must, in its application to the federal agency, certify that its proposed activity complies with and will be conducted in a manner consistent with the Indiana Lake Michigan Coastal Program.

The requirements for federal financial assistance are detailed at 16 U.S.C. 1456(d), and at 15 CFR 930 Subpart F. This provision ensures that any unit of state or local government applying for federal financial aid for activities that affect the state's coastal zone receives such federal aid only when such activities are consistent with Indiana's laws ~~(~~as described in Chapter 5 of the Lake Michigan Coast Zone Program Document. ~~at:~~ ~~http://www.in.gov/dnr/lakemich/files/feis-iich5-ptvi.pdf)~~

Federal assistance is categorized in the Catalog of Federal Domestic Assistance, where it is grouped by agency and assigned a five-digit number. Table C reflects such grouping and numbering, and lists those activities which would potentially affect the coastal zone.

The federal consistency requirement encourages cooperation, coordination, and communication among governmental entities. Federal consistency also gives the state an effective voice in actions of the federal government affecting the state's coastal zone.

The LMCP is a comprehensive networked program that relies on the appropriate state agencies to evaluate the federal actions outlined above for consistency. Each of the state agencies networked with the LMCP manages its own responsibilities, issues its own permits, and administers its own federal grant monies. The DNR, as the lead state agency, coordinates federal consistency reviews with these state agencies and serves as the point of contact for consistency reviews.

The federal consistency process applies to activities that have a reasonably foreseeable effect on the coastal zone. For federal agency activities, if the federal agency finds a proposed activity will affect the coastal zone, then the federal agency must prepare and submit a "consistency determination" to the ~~Environmental Unit~~ **LMCP**.

An applicant for a federal license or permit activity that affects the coastal zone must submit a "consistency certification" in the application to the federal agency, furnishing the ~~Environmental Unit~~ **LMCP** a copy of the certificationand data and information necessary to demonstrate consistency. A consistency certification states the proposedactivity complies with and will be conducted in a manner consistent with Indiana's state laws.

For federal financial assistance for projects that will affect Indiana's coastal zone, the applicant must request a "consistency concurrence" from the ~~Environmental Unit~~ **LMCP**.

Federal consistency in Indiana is conducted through a network of state agencies coordinated through the following office:

~~Environmental Unit~~
~~Division of Fish and Wildlife~~
~~Department of Natural Resources~~
~~402 West Washington Street, Room W273~~
~~Indianapolis, IN 46204~~
~~Electronic mail: environmentalreview@dnr.in.gov~~

Indiana Lake Michigan Coastal Program
Indiana Department of Natural Resources
1600 N 25 East
Chesterton, IN 46304
Email: coastal@dnr.in.gov

Under the network approach, whether a federal action is consistent with a state law is reviewed by the agency that administers the law. For example, the Indiana Department of Environmental Management reviews whether a federal action would violate Indiana's air pollution control law. If the law is one for which individual agency responsibility is indeterminate, the LMCP will identify itself or another agency to consider whether there is federal consistency.

Federal consistency review is completed when the ~~Environmental Unit~~ **LMCP** determines the federal action satisfies thestate laws described in Indiana's program. A determination of federal consistency does not, however, relieve a person from compliance with state law.

C. Definitions

These definitions apply throughout this information bulletin:

"Coastal Zone" means Indiana's portion of Lake Michigan and the watershed area draining into Indiana's portion of Lake Michigan ~~as outlined in Exhibit C~~.

"General license" means a license for a regulated activity, the terms and conditions of which are defined by law, and to which a person may elect to adhere instead of completing a formal application process for the activity.

"Including" means including but not limited to.

"Law" means a constitutional provision, judicial decision, administrative decision, statute, regulation, rule, or other legally binding document by which Indiana exerts control over private and public land and water uses and natural resources of the LMCP area. A "law" describes the term "enforceable policy" as used in 16 U.S.C. 1453(6a).

"License" means a franchise, permit, certification, approval, registration, charter, or similar form of authorization required by law.

"Nonrule policy document" means a statement by a state agency that is issued under IC 4-22-7-7. Included within the definition, under IC 4-22-7-7(a)(5), is a statement that:

- interprets, supplements, or implements a statute or rule;
- has not been adopted as a rule;
- is not intended to have the effect of law; and
- is used in conducting the agency's external affairs.

"Ordinary high watermark" means the line on the shore of a river, stream, or lake established by the fluctuations of water and indicated by physical characteristics: Examples of these physical characteristics include the following:

- A clear and natural line impressed on the bank;
- Shelving;
- Changes in the character of the soil;
- The destruction of terrestrial vegetation;
- The presence of litter or debris.

For Lake Michigan, the ordinary high watermark defines the extent of the beach and is delineated at 581.5 feet I.G.L.D., 1985 (582.252 feet N.G.V.D., 1929).

"Regulation" means a measure intended to have the force and effect of law and adopted by a federal agency under 5 U.S.C. 551 through 559.

"Rule" means a measure intended to have the force and effect of law and adopted by a state agency under IC 4-22-2; a state agency statement, designed to have the effect of law that implements, interprets, or prescribes either a law or policy or the organization, procedure, or practice requirements of an agency.

D. Exempted Activities

This section identifies activities exempted from federal consistency review. These activities are believed unlikely to have more than a minimal potential for harm to a land or water resource within the LMCP Area. As a prerequisite to the exemption, the ~~Environmental Unit~~ **LMCP** may require an assurance a person will conduct the activityin compliance with the terms of the general license:

- An activity conducted (even if supported in whole or part by a grant of federal financial assistance to a state or local government) under a general license approved by a State agency. Examples of a general license are as follows:
  (1) The placement of beach nourishment to Lake Michigan under 312 IAC 6-6.
  (2) The placement of a utility line crossing under 312 IAC 10-5-4(c).
  (3) The management of storm water run-off associated with construction under 327 IAC 15-5.
- An activity conducted under a general license approved by a federal agency. Examples are as follows:
  (1) The placement of fill under Section 404 of the Clean Water Act (33 U.S.C. 1344), pursuant to a Nationwide Permit from the U.S. Army Corps, unless the activity is one for which Water Quality Certification under Section 401 of the Clean Water Act has been conditioned or denied by the Indiana Department of Environmental Management.
  (2) Water quality certification and the placement of fill under Section 401 and Section 404 of the Clean Water Act under a Regional General Permit by the U.S. Army Corps and the Indiana Department of Environmental Management.

• An activity where the only required federal license results from the Section 106 Process (16 U.S.C. 470 and 36 CFR Part 800) of the National Historic Preservation Act (NHPA), unless the activity is in or within 100 feet of the ordinary high watermark of a navigable waterway identified in "Roster of Indiana Waters Declared Navigable or Nonnavigable", ~~Third~~ **Fifth** Amendment, ~~20080611-IR-312080426NRA~~ **(insert new DIN# here)** ~~(June 11, 2008)~~. ~~and availableonline at:~~

~~http://www.in.gov/legislative/iac/20080611-IR-312080426NRA.xml.pdf~~

• Federal financial assistance to a state or local government where the purposes for which the assistance may be applied are limited to one or a combination of the following:

(1) Training and outreach, including transportation and the reimbursement of expenses associated with attendance at seminars and similar functions.

(2) The preparation or distribution of printed or electronic publications.

(3) The preparation of inventories or conduct of surveys that do not involve the physical disturbance of buildings, lands, waters, plants, or animals.

(4) The acquisition of equipment used primarily for the promotion of public health or safety.

E. Applications

This section governs applications to demonstrate federal consistency. No fee is required. No application form is required. The application must include information reasonably required to determine whether an activity would be compliant with state law. A federal consistency application is initiated when the ~~Environmental Unit~~ **LMCP** receives this information for one of the following:

1. A consistency determination from a federal agency conducting an activity. If the federal agency decides that the activity does affect Indiana's coastal zone, it prepares and submits to the ~~environmental unit~~ **LMCP** a consistency determination at least 60 days before final approval of the activity. If the agency decides that the activity does not affect the zone, the agency may have to provide the state (at least 60 days prior to final approval of the activity) with a negative determination under 15 CFR 930.35.

* Indicate location of project (provide map), project start date and duration, and extent of work to be conducted onsite.
* Provide information for contact person including: name, title, mailing address, email address, phone and fax number.
* Letter should either state: "The proposed activity complies with Indiana's approved coastal management program and will be conducted in a manner consistent with such program" or "The proposed activity does not comply with Indiana's approved coastal management program"

2. A copy of the application for a federal license, from the license applicant, accompanied by a federal consistency certification.

* Provide information for contact person including: name, title, mailing address, email address, phone and fax number.
* Indicate location of project (provide map), project start date and duration, and extent of work to be conducted onsite.
* If not included in the federal license or permit application, a detailed description of the proposed activity, its associated facilities, the coastal effects, documentation that the activity will be consistent with the relevant enforceable policies of the management program, and any other information relied upon by the applicant to make its certification. Maps, diagrams, and technical data must be submitted when a written description alone will not adequately describe the proposal. State or local government permit applications, but not permits, may be included.
* Letter should either state: "The proposed activity complies with Indiana's approved coastal management program and will be conducted in a manner consistent with such program" or "The proposed activity does not comply with Indiana's approved coastal management program".

3. A copy of an application for federal financial assistance accompanied by a federal consistency certification.

* Copy of application for federal financial assistance (should indicate funding source drawn from and granting authority)
* Provide information for contact person including: name, title, mailing address, email address, phone and fax number.
* Indicate location of project (provide map), project start date and duration, and extent of work to be conducted onsite.
* Letter should either state: "The proposed activity complies with Indiana's approved coastal management program and will be conducted in a manner consistent with such program" or "The proposed activity does not comply with Indiana's approved coastal management program".

The letter should be sent to:

~~Environmental Review Coordinator~~
~~Indiana Department of Natural Resources~~
~~402 W. Washington St., Room W273~~

~~Indianapolis, IN 46204~~
~~or~~
~~environmentalreview@dnr.in.gov~~

Indiana Lake Michigan Coastal Program
Indiana Department of Natural Resources
1600 N 25 East
Chesterton, IN 46304
or
Email: coastal@dnr.in.gov

An application for a federal consistency certification must be delivered to the ~~Environmental Unit~~ **LMCP** at least 60 days before a federal agency action or the grant of federal financial assistance. An application for a federal consistency certification must be delivered to the ~~Environmental Unit~~ **LMCP** at least 90 days before action on a federal license.

In order to facilitate prompt review by the ~~Environmental Unit~~ **LMCP**, the applicant is encouraged to make submittals inan electronic format that is compatible with agency systems.

F. Review Procedures

This section outlines review procedures by the ~~Environmental Unit~~ **LMCP** following the receipt of a complete applicationthat includes all required information and supporting documents for a federal consistency certification. ~~Exhibit A and B present a graphical representation of this process and the associated timelines~~. An interested person muststrictly comply with the time frames described here. The applicant and the ~~Environmental Unit~~ **LMCP** may, however, enter a written agreement for the extension of a time frame other than the time frame described in section F9:

1. The information is filed and assigned a Federal Consistency Project (FCP) **Environmental Review** Number.
2. The information (or a brief summary of the information) is distributed by electronic mail to each networked state agency for federal consistency review. Additional information posted to LMCP website.
3. A public notice of the proposed activity is published on the LMCP's website in the LMCP Federal Consistency Register according to 15 CFR 930.42 and 15 CFR 930.61 (when appropriate) after a consistency determination has been received, except in cases where earlier public notice on the consistency determination by the Federal agency or State agency provides public notice. The public notice shall summarize the activity and announce the availability for public inspection of the consistency certification and accompanying public information and data. The public will be able to provide comment on whether the project is consistent with Indiana's state laws. The ~~Environmental Unit~~ **LMCP** shall maintain a list of interested parties and notify them when the LMCP Federal Consistency Register is updated. Interested parties may include librariesand designated local officials and any person who wishes to receive the information. The LMCP may establish subscription fee schedules to achieve reimbursement for costs associated with printing and mailing,the main distribution format will be electronic whenever possible.
4. The public may offer comments addressed to federal consistency. These comments may be considered by the ~~Environmental Unit~~ **LMCP**, however, only if received within 10 days of publication of notice on the website or of mailing of the notice, whichever occurs later. Any person who asserts the activity would not meet federal consistency must state with reasonable particularity the state law or laws that would be violated.
5. The ~~Environmental Unit~~ **LMCP** shall provide the applicant, and any person who has offered timely comments, withwritten notice of its intention to concur or object to a certification of federal consistency:
   A. Within 40 days for a federal agency action or a grant of federal financial assistance.
   B. Except as provided in section F6, within 70 days for a federal license.
   If the ~~Environmental Unit~~ **LMCP** intends to object to the certification, the ~~Environmental Unit~~ **LMCP** shall provide:
   (1) The rationale for the disagreement.
   (2) An explanation how the proposed activity is inconsistent with state law.
   (3) Alternative measures that, if implemented, would make the proposed activity consistent with state law.
   (4) If the objection is based on lack of sufficient information, the notice shall describe the nature of information requested and the necessity of having such information to determine the consistency of the activity with state law
6. If for federal license consistency reviews the ~~Environmental Unit~~ **LMCP** notifies the applicant and the federal agency within 30 days that additional time is required to complete the state's consistency review, the stateautomatically receives an additional 90 days to complete the review. Under this section, the

~~Environmental Unit~~ **LMCP** shall provide a written notice of its intention to concur or object within 180 days of the filing of an application for a federal consistency determination.

7. Any person may supplement the record of the ~~Environmental Unit~~ **LMCP** within 5 days of issuance of the noticedescribed in section F5 or F6. In addition, if the ~~Environmental Unit~~ **LMCP** denies Consistency during the initial determination, an applicant for the federal consistency certification may request informal review, within 10 days of the denial, from the Division of Hearings of the Natural Resources Commission. In the request, the applicant must specify the reason for the request and specify why the decision is incorrect. The Division of Hearings shall complete all proceedings and issue a federal consistency objection or concurrence within 10days of the review request. If the Division of Hearings fails to enter a timely disposition, the LMCP ~~Environmental Unit~~ shall reassume jurisdiction and make a final objection or concurrence under section F8.

8. If no request for review is sought under section F7, the LMCP ~~The Environmental Unit~~ shall either object to or concur with the certification of federal consistency, and issue the final determination. For a federal agency action or a grant of federal financial assistance, the objection or concurrence must be made within 60 days of the filing of an application for a federal consistency certification. For a federal license, the objection or concurrence must be made within 90 days (or 180 days if an extension of time is obtained under section F6) of the filing. If the state fails to make a timely objection or concurrence under this section or section F7, the applicant is presumed to have received a certification of federal consistency.

9. If there is an objection under section F7 or F8, the LMCP ~~Environmental Unit~~ shall notify the federal agency, the Director of the Office of Coastal Resource Management, and the applicant (if other than a federal agency). The notice shall describe the right of administrative review to the Secretary of Commerce under 15 CFR Part 930. A federal agency or applicant who has not exercised the opportunity for informal review under section F7 does not waive the right to review under this section. A person other than the federal agency or applicant lacks standing to seek administrative review under 15 CFR Part 930. There is no right to state judicial review of an objection to or concurrence with a federal consistency certification.

~~Please see attached Exhibit A: Federal Permit/License Flowchart and Exhibit B: Federal Agency Action and Federal Financial Assistance Flowchart for a graphical depiction of the federal consistency review process and associated timelines.~~

G. Emergencies

The ~~Environmental Unit~~ **LMCP** may authorize action without obtaining a certification of federal consistency if the action isreasonably required to respond to an emergency. An authorization under this part does not relieve a person from compliance with any law or from the possibility remediation may subsequently be required to achieve federal consistency. Failure by a party to make timely application for a federal consistency certification does not constitute an emergency.

H. Supplemental Information

Appendix A contains detailed information regarding the requirements of Federal Consistency certification. Appendix A may be referenced in implementation of this information bulletin. Included are the following: Federal Agency Activities and Development Projects requiring Consistency certification (Section III. Table A), Federal License and Permit Actions requiring Consistency certification (Section III. Table B), and Federal Assistance requiring Consistency certification (Section III. Table C). Matrices 5-1 through 5-10 include additional information regarding applicable state laws (not included in this bulletin). ~~Please reference LMCP program document and website at:~~ **Please contact LMCP for copies of the referenced Matrices.**

~~http://www.in.gov/dnr/lakemich/6061.htm~~

I. History

The effective date of the Coastal Zone Management program in Indiana was August 12, 2002. The original version of this information bulletin was effective March 1, 2004 **(27 IR 2117).** ~~Amendments were made by the Natural Resources Commission o~~**O**n January 16, 2007**, the Commission approved the First Amendment (20070214-IR-312070085NRA)** ~~, and these became effective on February 1, 2007~~. ~~The Commissionmade additional amendments o~~**O**n May 14, 2013**, the Commission approved the Second Amendment (20130605-IR-312130224NRA)** ~~and these became effective on June 1, 2013.~~ **On xx,xx, the Commission approved this Third Amendment updating URL links and making other technical amendments.**

J. Modifications to Information Bulletin

In order to accomplish the stated purpose of this information bulletin, and to remain current with federal law and state law, modifications will be required periodically. The LMCP and Division of Hearings are directed to regularly present the information bulletin to the Commission for review.

Appendix A

Chapter 11: Federal Consistency (Excerpted from Lake Michigan Coastal Program Document)

~~http://www.in.gov/dnr/lakemich/files/lmcp-feis.pdf~~

Section I: Introduction

A detailed description of the federal consistency process for each category of activities is detailed below.

A. Federal Agency Activities

A federal agency activity is any function performed by, or on behalf of, a federal agency in the exercise of its statutory responsibilities, but does not include the granting of a federal license or permit. However, the term includes federal development projects, which involve the planning, construction, modification, or removal of public works, facilities, or other structures, and the acquisition, use, or disposal of land or water resources. To be consistent with the CZMA, Indiana requires that any federal agency activity that affects Indiana's coastal zone be carried out in a manner that is "consistent to the maximum extent practicable" with state laws.

Table A in Section III of Chapter 11 of the Lake Michigan Coastal Program Document details those federal agency activities that the LMCP believes will require a consistency determination. The LMCP will monitor unlisted federal activities and will properly notify the appropriate federal agency when it discovers an unlisted activity requiring a consistency determination. Even so, the federal agency must at least provide the ~~Environmental Unit~~ **LMCP** with a consistency determination for all development projects (e.g. construction) in the coastal zone, whether suchproject is listed or unlisted.

Federal consistency requirements for federal agency activities are detailed at 16 U.S.C. 1456(c)(1) and (2), and at 15 CFR Part 930 subpart C. There is no categorical exemption for any federal activity. However, under certain circumstances the President may exempt a specific federal activity. (see 16 U.S.C. 1456(c)(1)(B)).

Consistency Determination

The federal agency proposing an activity within or outside of Indiana's coastal zone decides if the proposed activity will affect any land or water use or natural resource of the coastal zone. All "development projects" (i.e. construction) within the coastal zone are construed as activities affecting the zone.

A consistency determination for a federal agency activity affecting Indiana's coastal zone is an assertion by a federal agency that the activity will be conducted consistent with state laws to the maximum extent practicable. The words "maximum extent practicable" mean fully consistent, unless compliance is prohibited by existing law applicable to the federal agency's operations. The agency may also deviate from full consistency when unforeseen circumstances arising after approval of the Indiana coastal program present the agency with a substantial obstacle that prevents complete adherence to state laws.

A consistency determination must include a detailed description of the activity, its coastal zone effects, and comprehensive data and information sufficient to support such determination.

B. Federal License or Permit Actions

Federal license or permit requirements are detailed at 16 U.S.C.1456(c)(3)(A), and at 15 CFR Part 930 Subpart D. An applicant for a federal license or permit must, in its application to the federal agency, certify that its proposed activity complies with and will be conducted in a manner consistent with the Indiana Lake Michigan Coastal Program. The consistency certification shall read as follows: "The proposed activity complies with Indiana's approved coastal management program and will be conducted in a manner consistent with such program." The LMCP, and therefore federal consistency requirements, are based on Indiana's existing state laws.

Access to information contained in an application is governed by state law, IC 5-14-3 (sometimes called the "Access to Public Records Act"). An applicant may seek to have records excepted from the Access to Public Records Act to the extent the records are confidential, contain trade secrets, or are otherwise exempted from disclosure at IC 5-14-3-4. An applicant who is dissatisfied with a status certification by the ~~Environmental Unit~~, **LMCP** relating to public disclosure, may have the certification reviewed pursuant to the Indiana Administrative Ordersand Procedures Act (AOPA).

Consistency Certification

For an activity listed in Table B in Section III of Chapter 11 of the Lake Michigan Coastal Program Document, applicants for federal licenses or permits must submit a consistency certification in their application to the federal agency, furnishing the ~~Environmental Unit~~ **LMCP** a copy of such certification and data and information necessary to demonstrate consistency.

If the same activity requiring a federal license or permit also requires a state permit, the issuance of a permit by the state will include and constitute a consistency decision.

The state will evaluate project consistency based on applicable state laws. Early coordination with the LMCP is encouraged for projects affecting the Coastal Program Area.

C. Federal Financial Assistance

The requirements for federal financial assistance are detailed at 16 U.S.C. 1456(d), and at 15 CFR 930 Subpart F. This provision ensures that any unit of state or local government applying for federal financial aid for activities that affect the state's coastal zone receives such federal aid only when such activities are consistent with Indiana's laws (as described in Chapter 5: Existing Management Authorities of the Lake Michigan Coastal Program Document).

Federal assistance is categorized in the Catalog of Federal Domestic Assistance, where it is grouped by agency and assigned a five-digit number. Table C reflects such grouping and numbering, and lists those activities which would potentially affect the coastal zone. The LMCP will coordinate these activities for consistency review, and will provide the list to federal agencies and units of State or local government empowered to undertake federally assisted activities that may affect the coastal zone.

Consistency Review Process

A unit of state or local government, or any related public entity, submitting an application for federal financial assistance for an activity affecting Indiana's coastal zone must obtain the ~~Environmental Unit~~ **LMCP** consistency concurrence in order to receive such assistance. The applicant should submit the application for federal assistance to the ~~Environmental Unit~~ **LMCP**.

Section II: CONFLICT RESOLUTION, APPEAL, AND SECRETARIAL REVIEW

Conflict Resolution

In the event of a dispute between the federal agency and Indiana over whether the federal activity, federal license or permit, or federal financial assistance affects the coastal zone or whether a consistency determination for a federal activity was correctly made, either party may seek mediation by the Secretary of Commerce or through OCRM (15 CFR Subpart G). The responding party has the option of participating, but if it declines, it must indicate the basis for its refusal to participate. The Secretary of Commerce will attempt to encourage participation, but if unsuccessful will cease efforts to mediate. Judicial review is available to any party without having to exhaust the mediation process.

Appeal Process

The applicant for a federal license or permit or for federal financial aid who has been subject to a consistency objection by the ~~Environmental Unit~~ **LMCP** may appeal to the Secretary within 30 days of receipt of Indiana's objection. (15 CFR Subpart H). To appeal, the applicant should file a notice of appeal with the Secretary of Commerce, accompanied by a statement in support of the applicant's position and supporting data. The applicant should alsosend copies of these documents to the ~~Environmental Unit~~ **LMCP** and the federal agency involved.

If the Secretary finds that the proposed activity is consistent with the objectives or purposes of the Act, or is necessary in the interest of national security, the federal agency may issue the license or permit or grant the financial aid. This is called a Secretarial override. If the Secretary does not make either of these findings, the federal agency shall not approve the activity. A Secretarial override does not obviate the need for the applicant to obtain any permit or other authorization required by the state of Indiana.

Section III: Lists of Federal Activities Subject to Federal Consistency

Table A. Federal Agency Activities and Development Projects

Department of Defense- Secretary of the Army and the Army Corps of Engineers –
33 U.S.C. 404-426, 33 U.S.C. 471-472, 33 U.S.C. 540-633, 33 U.S.C. 701, 16 U.S.C. 460d, 42 U.S.C. 1962d-5, 10 U.S.C. 2801, 33 U.S.C. 1251

- Constructing, maintaining and improving channels or subsurface tunnels
- Dredging, storing, testing, sampling, dewatering, and disposing of dredged material
- Selection of storage, dewatering, and disposal sites for dredged material
- Building, maintaining, and repairing breakwaters, jetties, barriers, harbors, piers, docks
- Placing pipes or pipelines on, over, or under the lake bottom
- Establishment of harbor lines

- Creation of permanent sand bypass systems
- Creating habitat areas, including wetlands and offshore islands, from dredged material
- Beach nourishment and replenishment activities, reinforcing dunes and beaches
- Creation of man-made dunes and other man-made land
- Road and roadbed construction activities
- Building and maintaining erosion control structures
- Constructing navigational works, and marking anchorage grounds
- Constructing and maintaining dams and reservoirs, and providing hydroelectric power
- Constructing and maintaining flood control works, i.e., floodwalls, levees, diversion chan'ls *[sic]*
- Granting easements for rights-of-way for public roads on lands acquired by the United States for river and harbor and flood control improvements, 33 U.S.C. 558c
- Land acquisition or disposal, including sites for disposal of dredged material
- Ice management practices
- Cleanup activities in areas contaminated with hazardous waste, radioactive waste, toxic waste, active munitions, hazardous substances or materials, or other wastes or debris
- Design and management of construction for homes, schools, hospitals, day care centers, office buildings, airfields, warehouses, and training ranges for military and their families
- Purchase, management, and disposal of land for the Army and Air Force
- Providing engineering expertise to other fed agencies, state & local governments, and others
- Constructing, operating, and maintaining Army facilities
- Conducting projects that impact existing or planned research projects and contracts
- Coastal surveys, monitoring, aerial photos, Lidar, and coastal erosion mapping efforts
- Activities and other projects with the potential to impact coastal lands and waters
- Constructing, maintaining, and operating park and recreation facilities at water resource development projects

Department of Defense- Air Force, Army, and Navy – 10 U.S.C.

- Location, design, and acquisition of new or expanded defense installations (active or reserve status including associated housing, transportation, or other facilities)
- Improvements to military bases
- Base closures or realignments
- Military or Naval exercises
- Plans, procedures, and facilities for handling storage use zones
- Establishment of impact, compatibility, or restricted use zones
- Disposal of Defense property, including disposal and reuse plans for base closures
- Air Force, Army, or Navy manufacture, storage, transportation, treatment, or disposal of radioactive, hazardous, or other waste or hazardous substances, directly or by contractor
- Manufacture, transport, storage, or disposal of weapons, biological or nerve agents, nerve or mustard gas, napalm, explosives, nuclear power plant waste, etc.
- Causing or discovering the presence of nuclear powered vessels in the coastal zone or in other areas which could reasonably be expected to affect the coastal zone

Department of Interior- National Park Service – 16 U.S.C. 1, 16 U.S.C.460u

- Acquisitions of land and interest in land; granting rights-of-way
- Area and unit management
- Location, design, acquisition, construction, maintenance, and removal of facilities
- Removal of houses, including leaseback houses
- Entering into concession contracts, establishing and modifying concession facilities
- Activities as natural resources trustee in "Area of Concern", Lake County, IN

Department of Interior- U.S. Fish and Wildlife Service – 16 U.S.C. 742a

- Management of National Wildlife Refuges
- Management of waterfowl production areas
- Construction or modification of hatcheries, refuge facilities, office buildings, residences, laboratories, recreation facilities, water-control structures, and special purpose structures
- Acquisition of lands, wetlands, and other suitable habitat for migratory birds, endangered species, and other wildlife; granting rights-of-way
- Fish habitat creation, maintenance, and management
- Construction of visitor facilities and environmental education centers
- Construction of roadways, dikes, and dams
- Construction of sewerage facilities for domestic and hatchery effluent needs
- Recovery plans under Endangered Species Act, 16 U.S.C. 1531

- Nuisance species (i.e. zebra mussel, lamprey) control measures
- Granting easements for shooting and fishing activities under 16 U.S.C. 661
- Classification and leasing of land under 16 U.S.C. 666g
- Activities as natural resources trustee in "Area of Concern", Lake County, IN

Department of Interior- U.S. Geological Survey – 43 U.S.C. 31

- Installation, operation, and maintenance of acoustic water velocity meters or other devices in waters of the coastal zone

Department of Interior- Bureau of Land Management - 43 U.S.C. 2
5 U.S.C.A. Appx.1, Reorg. Plan 3 of 1946. IV

- Disposal and disposition of federal lands and structures, including lighthouses
- Acquisition of land or interest in land, construction of facilities

General Services Administration – 40 U.S.C.

- Acquisition, location, design, construction, development, management, and leasing (as lessor or lessee) of federal government property or buildings, leased or owned by federal government
- Disposition and disposal of federal surplus lands and structures

Department of Transportation- U.S. Coast Guard – 49 U.S.C. 108, 14 U.S.C.

- Location, design, construction, alteration, abandonment, or disposition of Coast Guard stations, bases, and lighthouses
- Location, placement, or removal of navigation devices which are not part of the routine operations under the Aids to Navigation program
- Expansion, abandonment, designation of anchorages, lighting areas, and shipping lanes
- Ice management practices and activities, including ice breaking
- Oil and hazardous material pollution response planning and response activities, and Area Contingency Plans developed under Section 311 of the Clean Water Act, 33 U.S.C. 1321, as amended by the Oil Pollution Control Act of 1990, 33 U.S.C. 2701
- Responses to the release of hazardous substances under CERCLA, 42 U.S.C. 9601
- Designation and management of Regulated Navigation Areas and Limited Access Areas identified in 33 CFR 165
- Designation of Security and Safety Zones and other activities under the Port and Waterways Safety Act, 33 U.S.C. 1221
- Construction, operation, maintaining, improving or expanding Vessel Traffic Services under the Port and Waterways Safety Act, 33 U.S.C. 1221
- Regulating the bulk transport by vessel of hazardous material or petroleum products

Department of Transportation- Federal Aviation Administration – 49 U.S.C. 106, 49 U.S.C. 40101, 49 U.S.C. 44501, 49 U.S.C. 44701, 49 U.S.C. 47501

- Location and design, installation, construction, operation, maintenance, quality assurance, testing, and demolition of airports and other aids to air navigation
- Development and implementation of programs to control aircraft noise and other environmental effects of civil aviation, and allocating use of airspace
- Procedures re transport of radioactive materials on passenger-carrying aircraft

Department of Transportation- Surface Transportation Board – 49 U.S.C. 10101

- Line transfers, leases, and trackage rights
- Line sales, including those to non-carriers
- Line constructions, including line crossings
- Design, construction, expansion, curtailment, or upgrading of railroad facilities or services, including bridges
- Removal of trackage; disposition of right-of-way
- Line abandonment, including Rails to Trails and Public Use Provision for Right-of-way
- Feeder Line Development Program

Department of Transportation-Federal Highway Administration – 49 U.S.C. 104, 49 U.S.C.S.. Appx 1653

- Highway, bridge, and causeway design, construction, maintenance, and repair
- Land acquisition
- Implementation of innovative or other technology affecting traffic control or flow
- Highway routing of hazardous materials

Department of Transportation- Maritime Administration – 49 U.S.C. 109, 40 U.S.C. 474, 46 U.S.C.S.. Appx

861, 46 U.S.C.S.. Appx 1101, 46 U.S.C. Appx 1601
- Port planning

Department of Transportation- Federal Railroad Administration 49 U.S.C. 103
- Orders dealing with dangers caused by unsafe rail transport of hazardous materials

Department of Commerce- National Oceanic and Atmospheric Administration - Reorganization Plan No.4 of 1970 at 5 U.S.C.S. 903, 15 U.S.C. 1501, 33 U.S.C. 1251
- Placement of buoys, platforms, or other objects or structures in coastal waters
- Construction, installation, maintenance, or removal of lake level gauging stations or other structures

Environmental Protection Agency – 42 U.S.C. 6901, 42 U.S.C. 9601, 33 U.S.C. 1341, 42 U.S.C. 300h
- Activities conducted under CERCLA (Superfund), 42 U.S.C. 9601
- Activities conducted under Resource Conservation & Recovery Act, 42 U.S.C. 6901
- Sediment sampling and sediment testing
- Open disposal of dredged material
- Oil and hazardous material pollution response planning and response activities, and Area Contingency Plans developed under the Oil Pollution Control Act, 33 U.S.C. 1321

Department of Energy- Federal Energy Regulatory Commission – 42 U.S.C. 7171, 16 U.S.C. 796
- Delivery of oil or coal by ship
- Orders for furnishing of adequate service under the FPA, 16 U.S.C. 824f
- Licensee's exercise of eminent domain (as agent of the U.S.) under FPA, 16 U.S.C. 814
- Grant of right of eminent domain for right of way for natural gas pipeline under the Natural Gas Act, 15 U.S.C. 717f (h)

Department of Justice- U.S. Marshals Service – 28 U.S.C. 561, 28 U.S.C. 2001
- Disposition of property acquired by the Marshals Service

Nuclear Regulatory Commission - 42 U.S.C. 2011, 42 U.S.C. 5841
- The siting, construction and operation of nuclear generating stations, power plants, fuel storage, and processing centers
- Transportation of nuclear waste through the coastal zone or in any other area where such transport could reasonably be expected to affect the coastal zone

Federal Emergency Management Agency – 42 U.S.C. 4001, 42 U.S.C. 51
- Disaster-related activities (i.e. planning, mitigation activities, monitoring reconstruction) in the coastal zone or in any other area where such activities could be reasonably expected to affect the coastal zone

Table B. Federal License and Permit Actions
Department of Defense- Secretary of the Army, and Army Corps of Engineers
- Permits for construction of dams or dikes in or over navigable waters required under Section 9 of the Rivers and Harbors Act of 1899, 33 U.S.C. 401
- Permits for the construction of structures (i.e. piers, wharves, breakwaters, bulkheads, jetties, weirs, transmission lines, pipes, or pipelines) in, under, or over navigable waters required by Section 10 of the Rivers and Harbors Act of 1899, 33 U.S.C. 403
- Permits for excavating or dredging from navigable waters, or for the alteration or modification of the course, location, condition, or capacity of such waters, required by Section 10 of the Rivers and Harbors Act of 1899, 33 U.S.C. 403
- Permits for disposal of dredged or fill material into navigable waters required by Section 10 of the Rivers and Harbors Act of 1899, 33 U.S.C. 403
- Permits for the disposal of dredged or fill material into waters of the United States required by Section 404 of the Clean Water Act, 33 U.S.C. 1344
- Permits for the alteration or occupation of seawall, bulkhead, jetty, dike, levee, wharf, pier, or other work built by the U.S., or of any piece of plant used in the construction of such work, or of any material composing such work, required by Section 14 of the Rivers and Harbors Act of 1899, 33 U.S.C. 408
- Approval of plans for improvement made at private expense under USACE supervision pursuant to Section 1 of the Rivers and Harbors Act of 1902, 33 U.S.C. 565

Department of Energy- Federal Energy Regulatory Commission – 42 U.S.C. 7101
- Licenses, renewals, or amendments to licenses, or approvals for transfers of licenses or rights thereunder, for nonfederal hydroelectric projects and primary transmission lines under Sec. 3(11), 4(e), 8, and 15 of the

Federal Power Act (FPA), 16 U.S.C. 796 (11), 797(e), 801, and 808, and under Sec. 405 of FPA, 16 U.S.C. 2701
• Granting exemptions from Federal Power Act (FPA) requirements, 16 U.S.C. 823a
• Applications for orders for interconnection of electric transmission facilities, and sales and exchanges of energy, under Section 202 of the FPA, 16 U.S.C. 824a
• Application for orders authorizing disposition, consolidation, or merger of facilities or any part thereof under Sec.203 of the FPA, 16 U.S.C. 824b
• Applications for physical connection orders under Section 210 of the FPA, 16 U.S.C. 824i
• Applications for transmission service orders under Section 211 of the FPA, 16 U.S.C.824j
• Regulation of transportation of natural gas, and the entities engaged in such, under Sec.1 (b) of the Natural Gas Act, 15 U.S.C. 717 (b)
• Orders for extension or improvement of natural gas transportation facilities, and orders to establish physical connection of transportation facilities with distributors under Sec. 7(a) of the Natural Gas Act (NGA), 15 U.S.C. 717f (a)
• Issuing certificates of public convenience and necessity for the construction and operation of interstate natural gas pipelines and pipeline facilities, and for the transportation of natural gas, under 7 (c) of the NGA, 15 U.S.C. 717 f (c)
• Issuing declaratory orders under the Administrative Procedure Act, 5 U.S.C. 554(e)
• Licensing of import and export of natural gas under Sec.3 of the NGA, 15 U.S.C. 717b
• Approval or denial of abandonment of natural gas facilities or service under Sec.7 (b) of the NGA, 15 U.S.C. 717f (b)
• Exemptions from orders prohibiting burning natural gas or petroleum products in certain situations, 15 U.S.C. 792

Department of Transportation- Coast Guard
• Approval of construction or modification of bridges, causeways, pipelines, or other structures over, on, or under navigable waters pursuant to Section 9 or 10 of the Rivers and Harbors Act, 33 U.S.C. 401, 403, and the Bridge Act, 33 U.S.C. 491
• Marine event permits issued under authority of 33 U.S.C. 1233, found at 33 CFR 100.15

Environmental Protection Agency
• National Pollutant Discharge Elimination System (NPDES) permits and other permits for federal installations discharges, sludge runoff, aquaculture permits and all other permits pursuant to Sections 401, 402, 405,and 318 of the Federal Water Pollution Control Act of 1972, 33 U.S.C. 1341, 1342, 1345, and 1328
• Permits pursuant to the Resource Conservation and Recovery Act (RCRA) of 1976, 42 U.S.C. 9601
• Permits pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, 42 U.S.C. 6901
• Permits pursuant to the underground injection control program under Section 1424 of the Safe Drinking Water Act, 42 U.S.C. 300h * Indiana has primacy for Class II injection wells
• Permits pursuant to the Clean Air Act of 1976, 42 U.S.C. 7401
• Permits pursuant to the Marine Protection, Research, and Sanctuaries Act, 16 U.S.C. 1431

Department of Interior- U.S. Fish and Wildlife Service – 16 U.S.C. 742a
• Endangered species permits pursuant to the Endangered Species Act, 16 U.S.C. 1531
• Permits pursuant to the Migratory Bird Treaty Act, 16 U.S.C. 703
• Permits to impound water and coordination activities under the Fish and Wildlife Coordination Act, 16 U.S.C. 661
• Permits and cooperative agreements for use of lands for grazing, timber harvest, farming, and concessions, and agreements with States for operation of Service management units
• Permits and easements for rights-of-way
• Permits for the import-export of regulated wildlife and plants, including interstate shipment of injurious wildlife
• Permits for the taking or banding of migratory birds, including falcons and eagles

Department of Interior- National Park Service – 16 U.S.C. 1
• Permits for rights-of way
• Permits for scientific-collecting purposes
• Permits for special use of real property (including assets and resources or utilities)
• Agreements to permit concession operations

Nuclear Regulatory Commission
• Licensing, certification, and determination of the siting, construction, and operation of nuclear generating

stations, fuel storage, and processing centers pursuant to the Atomic Energy Act of 1954, 42 U.S.C. 2011, Title II of the Energy Reorganization Act of 1974, 42 U.S.C. 5841, and the National Environmental Policy Act of 1974, 42 U.S.C. 4321

Department of Transportation- Federal Aviation Administration – 49 U.S.C. 106, 49 U.S.C. 40101, 49 U.S.C. 44501, 49 U.S.C. 44701, 49 U.S.C. 47501

- Permits, licenses, certifications, and other approvals for construction, operation, or alteration of airports
- Allocating use of airspace or otherwise permitting changes in air traffic resulting in increases of noise pollution over sensitive areas of the coastal zone

Department of Transportation- Surface Transportation Board – 49 U.S.C. 10101

- Permission to abandon railway lines (to the extent that the abandonment involves removal of trackage and disposition of right-of-way)
- Permission to construct, expand, alter, or abandon railroads
- Issuing certificates for water carrier authority
- Granting exemptions from rail regulation
- Granting exemptions from motor carrier regulation
- Rail regulation- emergency service orders
- Rail regulation- competitive access
- Motor carrier regulation- Bus company through-route requirements
- Intermodal regulation- Rail-Water connections for non-contiguous domestic trade

Department of Transportation- Federal Highway Administration 49 U.S.C. 104, 49 Appdx. U.S.C.S. 1653

- Issuing safety permits regarding highway routing of hazardous materials

Department of Transportation- Research and Special Programs Administration 49 U.S.C. 5101

- Issuing, modifying, and terminating approvals under the Hazardous Materials Transportation Law (hazmat)
- Issuing, renewing, modifying, and terminating exemptions under hazmat
- Administrative determinations of whether state or local requirements are preempted under hazmat or are issued a waiver of preemption

Table C. Federal Assistance

Numbers refer to the Catalog of Federal Domestic Assistance Programs. Program descriptions can be found at the Catalog's website at www.gsa.gov/fdac.

Department of Agriculture

10.760 Water and Waste Disposal Systems for Rural Communities (Consolidated Farm and Rural Development Act, as amended, Section 306, 7 U.S.C. 1926.)

10.766 Community Facilities Loans and Grants (Consolidated Farm and Rural Development Act, as amended, Section 306, 7 U.S.C. 1926.)

10.769 Rural Development Grants (Consolidated Farm and Rural Development Act, Section 310B, as amended, 7 U.S.C. 1932)

10.770 Water and Waste Disposal Loans and Grants (Section 306C) (Consolidated Farm and Rural Development Act, Section 306C, 7 U.S.C. 1926(c), as amended; Food, Agriculture, Conservation, and Trade Act of 1990, Title XXIII, Public Law 101-624)

10.854 Rural Economic Development Loans and Grants (Rural Electrification Act of 1936, as amended, Title III, 7 U.S.C. 930-940c.)

10.901 Resource Conservation and Development (Public Law 97-98, 95 Stat. 1213.)

10.904 Watershed Protection and Flood Prevention (Watershed Protection and Flood Prevention Act, as amended, 16 U.S.C. 1001, 33 U.S.C. 701b)

10.906 Watershed Surveys and Planning (Watershed Protection and Flood Prevention Act, as amended, 16 U.S.C. 1001, 33 U.S.C. 701b)

Department of Commerce

11.300 Economic Development- Grants for Public Works and Infrastructure Development (Public Works and Economic Development Act of 1965, as amended, 42 U.S.C.3131, 3132, 3135, 3171)

11.304 Economic Development- Public Works Impact Program (Public Works and Economic Development Act of 1965, as amended, 42 U.S.C. 3131, 3135)

11.405 Anadromous Fish Conservation Act Program (Anadromous Fish Conservation Act of 1965, as amended, 16 U.S.C. 757a through f; Reorganization Plan No. 4, 1970)

11.407 Interjurisdictional Fisheries Act of 1986 (Interjurisdictional Fisheries Act of 1986, as amended, 16 U.S.C. 4106)

11.427 Fisheries Development and Utilization Research & Development Grants & Coop Agreements (Saltonstall-Kennedy Act, as amended, 15 U.S.C. 713c-3(c))
11.463 Habitat Conservation (Fish and Wildlife Coordination Act of 1956, 16 U.S.C. 661; Coastal Wetlands Planning, Protection, and Restoration Act, 16 U.S.C. 3951; 33 U.S.C. 1901; Department of Commerce Appropriation Act of 1995)

Department of Defense
12.100 Aquatic Plant Control, 33 U.S.C. 610
12.101 Beach Erosion Control Projects (Rivers and Harbors Act of 1962, Section 103, as amended, 33 U.S.C. 426e-g)
12.104 Flood Plain Management Services (Flood Control Act of 1960, Section 206,as amended, 33 U.S.C. 709a)
12.105 Protection of Essential Highways, Highway Bridge Approaches, and Public Works (Flood Control Act of 1946, Section 14, 33 U.S.C. 701r, as amended)
12.106 Flood Control Projects (Flood Control Act of 1948, Section 205, as amended, 33 U.S.C. 701s)
12.107 Navigation Projects (Rivers and Harbors Act of 1960, Section 107, as amended, 33 U.S.C. 577)
12.108 Snagging and Clearing for Flood Control (Flood Control Act of 1937, Section 2, as amended, 33 U.S.C. 701g)
12.109 Protecting, Clearing, and Straightening Channels (Rivers and Harbors Act of 1945, Section 3, as amended, 33 U.S.C. 603a)
12.110 Planning Assistance to States (Water Resources Development Act of 1974, Section 22, as amended, 42 U.S.C. 1962d-16)
12.610 Joint Land Use Studies (Defense Authorization Act, 10 U.S.C. 2391)
12.613 Growth Management Planning Assistance (Defense Authorization Act, 10 U.S.C. 2391)

Department of Housing and Urban Development (Sections refer to the National Housing Act)
14.218 Community Development Block Grants/ Entitlement Grants (Housing and Community Development Act of 1974, Title I, as amended, 42 U.S.C. 5301-5317)
14.219 Community Development Block Grants/ Small Cities Grants (Housing and Community Development Act of 1974, Title I, as amended, 42 U.S.C. 5301-5317)
14.246 Community Development Block Grants/ Economic Development Initiative (Housing and Community Development Act of 1974, Sec.108(q), as amended, 42 U.S.C. 5308(q)
14.866 Revitalization of Severely Distressed Public Housing (HUD Appropriations Act of 1993, Public Law 102-389)

Department of the Interior
15.605 Sport Fish Restoration (Federal Aid in Sportfish Restoration Act of 1950, as amended, 16 U.S.C. 777-777k)
15.611 Wildlife Restoration (Federal Aid in Wildlife Restoration Act of 1937, as amended, 16 U.S.C. 669-669b, 669-669l)
15.614 Coastal Wetlands Planning, Protection, and Restoration Act (Coastal Wetlands Planning, Protection, and Restoration Act, Section 305, Title III, 16 U.S.C. 3954)
15.615 Cooperative Endangered Species Conservation Fund (Endangered Species Act of 1973, as amended, 16 U.S.C. 1531
15.616 Clean Vessel Act Pumpout Grant Program (Clean Vessel Act of 1992, Section 5604, 33 U.S.C. 1322, note, and 16 U.S.C. 777c and 777g)
15.617 Wildlife Conservation and Appreciation (Partnerships for Wildlife Act, Title VII, Sec.7105(g), 16 U.S.C. 3744(g))
15.904 Historic Preservation Fund Grants-in-Aid (National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470)
15.916 Outdoor Recreation- Acquisition, Development, and Planning (16 U.S.C. 1-4; Land and Water Conservation Fund Act of 1965, 16 U.S.C. 460d, 460l-4 to 460l-11, as amended)
15.919 Urban Park and Recreation Recovery Program (Urban Park and Recreation Recovery Act of 1978, Title 1, 16 U.S.C. 2501-2514)

Department of Transportation
20.05 Boating Safety Financial Assistance, 46 U.S.C. 13101-13110
20.06 State Access to the Oil Spill Liability Trust Fund (Oil Pollution Act of 1990, Sec.1012(d)(1), 33 U.S.C. 2712(d)(1))
20.07 Bridge Alteration (River and Harbor Act of 1899, Section 18, 33 U.S.C. 502; Bridge Act of 1906, Sections 4 and 5, 33 U.S.C. 494-5; Act of June 21, 1940, as amended; Truman-Hobbs Act, 33 U.S.C. 511-23)
20.106 Airport Improvement Program (Public Law 103-272)

20.205 Highway Planning and Construction, 23 U.S.C.
20.219 Recreational Trails Program (Transportation Equity Act for the 21st Century, Sec. 1101(a)(7); 23 U.S.C. 104(h); 23 U.S.C. 206)
20.500 Federal Transit Capital Improvement Grants, 49 U.S.C.5309
20.509 Public Transportation for Nonurbanized Areas, 49 U.S.C. 5311
20.514 Transit Planning and Research, 49 U.S.C. 5314(a)
20.600 State and Community Highway Safety (Highway Safety Act of 1966, as amended, 23 U.S.C. 401
20.801 Development and Promotion of Ports and Intermodal Transportation (Merchant Marine Act of 1920, Section 8, as amended, 46 U.S.C. 867; Merchant Marine Act of 1936, Sections 209 and 212, as amended, 46 U.S.C. 1119, 1122; Section 2, Public Law 96-371; Defense Production Act of 1950, as amended, 50 Appx. U.S.C. 2061, 2062, 2071-2073, 2081, 2091-2094, 2101-2110, 2121-2123, 2131-2135, 2151-2166; Executive Order 10480; Executive Order 12656

Environmental Protection Agency (EPA)
66.001 Air Pollution Control Program Support (Clean Air Act of 1977, Section 105, as amended, Clean Air Act Amendments of 1990, 42 U.S.C. 7405)
66.419 Water Pollution Control- State and Interstate Program Support (Clean Water Act, Section 106, as amended, 33 U.S.C. 1256)
66.432 State Public Water System Supervision (Public Health Service Act, as amended, 42 U.S.C. 201; Safe Drinking Water Act, as amended, 42 U.S.C. 300f)
66.433 State Underground Water Source Protection (Safe Drinking Water Act, as amended, 42 U.S.C. 300f)
66.454 Water Quality Management Planning (Clean Water Act, Sections 205(j) and 604(b), as amended, Water Quality Act of 1987, 33 U.S.C. 1285(j) and 33 U.S.C. 1384(b))
66.456 National Estuary Program (Clean Water Act, Section 320, as amended, 33 U.S.C. 1330)
66.458 Capitalization Grants for State Revolving Funds (Clean Water Act, as amended, Water Quality Act of 1987, Sections 601-607, 205(m), 33 U.S.C. 1381-1387, 33 U.S.C. 1285 (m))
66.460 Non-Point Source Implementation Grants (Clean Water Act, Section 319(h), 33 U.S.C. 1329(h))
66.461 Wetlands Protection- Development Grants (Clean Water Act, Section 104(b)(3), as amended, 33 U.S.C. 1254(b)(3))
66.463 National Pollutant Discharge Elimination System (NPDES) Related State Program Grants (Clean Water Act, Section 104(b)(3), as amended, 33 U.S.C. 1254(b)(3))
66.468 Capitalization Grants for Drinking Water State Revolving Fund (Safe Drinking Water Act Amendments of 1996, Section 130, 42 U.S.C. 300 j-12)
66.469 Great Lakes Program (Clean Water Act, Sections 104 and 118, 33 U.S.C. 1254, 33 U.S.C.1268)
66.700 Consolidated Pesticide Enforcement Cooperative Agreements (Federal Insecticide, Fungicide, and Rodenticide Act, Section 23, as amended, 7 U.S.C. 136u)
66.701 Toxic Substances Compliance Monitoring Cooperative Agreements (Toxic Substances Control Act, Sections 28 and 404(g), as amended, 15 U.S.C.2627 and 2684(g))
66.708 Pollution Prevention Grants Program (Pollution Prevention Act of 1990, Section 6605, 42 U.S.C. 13104)
66.801 Hazardous Waste Management State Program Support (Solid Waste Disposal Act, Section 3011, as amended, Resource Conservation and Recovery Act (RCRA) of 1976, 42 U.S.C. 6931)
66.802 Superfund State Site-Specific Cooperative Agreements (Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, Section 104, as amended, Superfund Amendments and Reauthorization Act (SARA) of 1986, as amended, 42 U.S.C. 9604)
66.804 State Underground Storage Tanks Program (Solid Waste Disposal Act, Section 2007(f)(2), as amended, and Section 8001(a);Resource Conservation and Recovery Act (RCRA) of 1976, as amended, Hazardous and Solid Waste Amendments (HSWA) of 1984, 42 U.S.C. 6901 et seq.)
66.805 Leaking Underground Storage Tank Trust Fund Program (Solid Waste Disposal Act, Section 9003(h)(7), as amended; Section 8001(a); Resource Conservation and Recovery Act (RCRA) of 1976, as amended, 42 U.S.C. 6901 et seq.; Superfund Amendments and Reauthorization Act (SARA) of 1986, as amended, 42 U.S.C. 9601 et seq.)
66.807 Superfund Innovative Technology Evaluation Program (SITE) (Comprehensive Environmental Response, Compensation, & Liability Act (CERCLA) of 1980, Sec 311(b), as amended, Superfund Amendments Reauthorization Act of 1986, as amended, 42 U.S.C. 9660(b)
66.808 Solid Waste Management Assistance (Solid Waste Disposal Act, Section 8001, as amended, Resource Conservation and Recovery Act (RCRA) of 1976, as amended, 42 U.S.C. 6981)
66.809 Superfund State Core Program Cooperative Agreements (CERCLA, as amd., 42 U.S.C. 9601)
66.810 CEPP Technical Assistance Grants Program (Clean Air Act, Secs.103(b)(3),112(L)(4), 42 U.S.C. 7403(b)(3), 7412(L)(4); Toxic Substances Control Act, Secs.10(a),28(d), 15 U.S.C. 2609(a), 2627(d)

Department of Energy (DOE)
81.041 State Energy Program (Energy Policy and Conservation Act, Title III, Sections 361-366, Part C, 42 U.S.C. 6321-6326; Dept. of Energy Organization Act of 1977, as amended, 42 U.S.C. 7101; National Energy Conservation Policy Act of 1978, Public Law 95-619, Public Law 101-440; Balanced Budget Down Payment Act II of 1996, Public Law 104-134)

Federal Emergency Management Agency (FEMA)
83.505 State Disaster Preparedness Grants
83.534 Emergency Management- State and Local Assistance (Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended, Stafford Act, Title VI, Sections 611 and 613, as amended, 42 U.S.C.5196 and 5196b)
83.536 Flood Mitigation Assistance (National Flood Insurance Reform Act of 1994, Title V, Sections 553 and 554, 42 U.S.C. 4104c, 4104d, 4017)

Department of Health and Human Services (HHS)
93.887 Project Grants for Renovation or Construction of Non-Acute Health Care Facilities
(Public Health Service Act, Section 1610 (b), 42 U.S.C. 300r (b))

NATURAL RESOURCES COMMISSION

Information Bulletin #46 (~~Third~~ Fourth Amendment)

SUBJECT: Geocaching on DNR Properties

1. Purpose and Application

The purpose of this information bulletin is to provide guidance for the management of geocaching on a DNR property. A person who participates in geocaching is subject to 312 IAC 8. A "cache" is a "device" and requires a license from the department under 312 IAC 8-2-10(6)(B). The standards for a license are outlined by this information bulletin.

2. Definitions

(1) "Cache" means a container that is used in association with geocaching. A cache typically includes items such as a logbook, pen, pencil, map, or trinkets.
(2) "Containerless cache" refers to the target for geocaching for which there is no container or logbook. Objects are not traded at the site of a containerless cache. The term includes any cache type without a container listing a DNR property, or identifying global positioning system (GPS) coordinates on a DNR property, as the cache location.
(3) "Department" or "DNR" refers to the department of natural resources.
(4) "DNR property" has the meaning set forth in 312 IAC 8-1.5-6.
(5) "Geocaching" means a game pursued by GPS users. An individual or organization places a cache or caches and shares its or their location on the Internet. A participant in the game applies the GPS coordinates to locate a target cache or caches. When located, the participant records the find on a designated website such as www.geocaching.com. The game may provide that objects are traded at the cache.
(6) "Multi-cache" refers to containers that are located from information received in another cache.

3. License Applications

(1) A person must obtain an "official geocaching placement license" on a department form before placing a cache on or within a DNR property. A cache that is placed without first obtaining a license under this information bulletin may be removed by the department and disposed as provided in "Personal Property Found on DNR Properties" (Information Bulletin #23, ~~Second~~ **Fourth** Amendment) that was posted on ~~March 21, 2012,~~ in the Indiana Register at ~~20120321-IR-312120149NRA.~~ **20170927-IR-312170435NRA.**
(2) The property manager is authorized to issue, condition, or deny a license application.
(3) A person who is aggrieved by a determination by the property manager may seek informal review from the division director. A determination by the division director is subject to administrative review under 312 IAC 3-1.

4. General Prohibitions, Limitations, and Requirements

(1) In the placement of a cache or other participation in a geocaching activity, a person must not do any of the following:
(A) Violate 312 IAC 8 or another state or federal law.
(B) Dig or otherwise disrupt the ground to place a cache.
(C) Place a cache more than 25 feet from a developed trail, road, or access point.
(D) Place a containerless cache anywhere other than on or discoverable directly from a developed trail, road, or access point.
(E) Locate any cache other than a containerless cache on a property administered in whole or in part by the division of nature preserves.
(F) Seek a containerless cache on a property administered in whole or in part by the division of fish and wildlife.
(2) The maximum number of caches that can be approved on a DNR property at any time is the lesser of the following:
(A) 50; or
(B) the number derived by dividing the total acreage of the DNR property by 200 acres. A DNR property containing at least 200 acres but not more than 1,000 acres is limited to not more than five caches. A DNR property containing fewer than 200 acres does not qualify for geocaching.
(3) A property manager is not required to approve any multi-cache but may approve not more than five multi-caches under an official geocaching placement license. Not more than five stages may be established in any one multi-cache.
(4) As soon as practicable after placing a cache, the person who holds an official geocaching placement license must record the exact location on the copy of the license maintained by the property manager.

(5) A person that holds an official geocaching placement license must inspect any cache at least once every six months to help ensure compliance with this information bulletin. During the inspection, the person must remove from the cache any food, alcohol, firearms, drugs, items unsuitable for minors, or other items that may pose a danger to people or wildlife.
(6) An official geocaching placement license expires:
(A) on January 1 of the year following the date of issuance; or
(B) if issued after October 31, on January 1 of the second year following the date of issuance.
(7) A property manager may renew an official geocaching placement license for a subsequent period under the terms described in part 6 of this paragraph.

5. License Standards

The property manager shall exercise reasonable discretion in determining whether to issue, condition, or deny an application for an official geocaching placement license. In the exercise of discretion, the following factors and principles apply:
(1) A cache shall not be approved for placement in a sensitive archaeological, historical, or ecological area. Examples include an historic building or structure, a cave, or an area that contains a rare, threatened, or endangered plant or animal.
(2) A scheduled resource management activity, such as a timber sale or a prescribed burn, shall be considered in evaluating a license application.
(3) A cache cannot be approved for placement in an area that could reasonably cause danger to a geocaching participant or to another person who visits the DNR property. Examples of inappropriate areas include a cliff, bluff, tree, lake, stream, road, or flood prone area.
(4) For inclusion with the license application, the property manager may require a person issued an official geocaching placement license to provide a photograph of the cache, the site where the cache is placed, or both.
(5) Any other factor reasonably consistent with proper use and protection of the particular DNR property, including implementation of a master plan.
(6) A containerless cache is exempted from licensing under this information bulletin, but a person who administers or seeks a containerless cache must comply with 312 IAC 8.

6. License Suspension or Revocation and Site Reclamation

(1) The property manager may suspend or revoke an official geocaching placement license if a term of the license or of this information bulletin is violated or if the location of the cache is found to pose a hazard to safety or the environment. The property manager shall make a reasonable attempt to notify the license holder of the action, as well as to notify the designated website. The reasons for the property manager's action shall be recorded with the license. If the license holder elects to relocate the cache, a new license application is required.
(2) Upon the suspension, revocation, or termination of an official geocaching placement license, the license holder is responsible for removal of the cache, for site restoration, and for any associated expenses. A person who places a cache without a license has the same responsibilities as if issued a license.
(3) A person that is aggrieved by a suspension or revocation may seek administrative review under 312 IAC 3-1.

7. History

~~The Natural Resources Commission approved~~ ~~t~~**T**his information bulletin ~~on November 16, 2004. The bulletin~~ was **first** published in the Indiana Register **on November 16, 2004 (28 IR 1376)** ~~and effective January 1, 2005~~. **On September 20, 2005**, ~~T~~**t**he Commission **approved the First A**mendment**s** ~~in September 2005~~ **(29 IR 701)** to include the Division of Museums and Historic Sites among DNR properties eligible for geocaching. ~~The amendments were effective November 1, 2005.~~ ~~I~~**O**n July **21,** 2009**, the Commission approved the Second Amendment (20090729-IR-312090578NRA)** ~~the Commission approved amendments~~ to allow what are now called "containerless caches" on properties administered by the Division of Nature Preserves and to allow geocaching on the Interlake State Recreation Area. ~~The amendments were effective August 1, 2009~~. ~~I~~**O**n September **18,** 2012, **the Commission approved the Third Amendment (20120926-IR-312120547NRA)** ~~at the request of the DNR and geocaching organizations, the Commission made~~ **making** numerous amendments, ~~to the bulletin~~**. including the removal of the r**~~R~~eference to the Division of Museums and Historic Sites, **following the elimination of that** ~~was removed because the~~ division ~~was repealed~~ by (*P.L.167-2011)*. ~~The amendments were effective October1, 2012.~~ **On xx, 2021, the Commission approved this Fourth Amendment making technical amendments.**

NATURAL RESOURCES COMMISSION

Information Bulletin #49 (First Amendment)

SUBJECT: Waterfowl Resting Area

I. Introduction

Indiana law grants the Department of Natural Resources (DNR) broad authority to manage the fish and wildlife resources of the State of Indiana. With respect to a DNR property, 312 IAC 8-2-1(a) provides that DNR may post a sign to authorize a particular use or close an area to entry by the public and 312 IAC 8-2-1(b) provides that a person must not violate a posted sign. DNR's Division of State Parks ~~and Reservoirs~~ and Division of Fish and Wildlife have posted signs designating certain areas they manage as a "Waterfowl Resting Area." These signs generally prohibit entry by the public and may or may not also include specific dates when entry is prohibited.

The designation of an area as a Waterfowl Resting Area is a wildlife management tool whose general purpose is to provide a place for waterfowl to congregate in an area where disturbance is held to a minimum. In order to accomplish this objective, large areas of land and water need to be set aside and posted. The objective is to limit, but not totally eliminate, access to an area designated or posted as a Waterfowl Resting Area. A Waterfowl Resting Area is not the same as a "Refuge" which is commonly understood to mean an area where access by the public and activities such as hunting are completely prohibited. Each DNR property will also have an established management plan and goals.

The Division of ~~Reservoirs~~ **State Parks** and **the** Division of Fish and Wildlife of DNR have used designated Waterfowl Resting Areas for thirty years. This management tool has been a very effective way of balancing the use of the area by waterfowl hunters and those users that may want to enter the area for other approved activities. With competition for areas by property users with varied interests, this system has been extremely effective and allows the property management personnel to better manage the public's resource for all users and still protect the resources that are entrusted to DNR.

As stated, the primary purpose of designating a Waterfowl Resting Area is to reduce human disturbance and create favorable conditions that in turn will increase use by waterfowl. However, DNR recognizes the public may also have interests that are compatible with secondary uses of a WRA for activities such as hiking, birdwatching, boating, educational field trips, research studies or special hunting, fishing or trapping activities as deemed appropriate by the Property Manager.

The standards below for issuance of licenses are designed to accommodate various reasons why members of the public may want to enter an area designated or posted as a Waterfowl Resting Area.

II. Definitions

As used in this policy document:

"Waterfowl" means a wild goose, brant, or wild duck as defined in Ind. Code 14-22-7-1.

"Waterfowl Resting Area" or "WRA" means an area set aside by the DNR, including land and water, to reduce human disturbance and create favorable conditions for increased use by waterfowl. A WRA may be operated on a permanent or seasonal basis.

III. Policy Statement for Issuance of Licenses

The following standards are established for the issuance of licenses to enter a Waterfowl Resting Area:

1. The individual, group or organization desiring to enter must make a verbal or written request in advance to the DNR property manager or other designated DNR representative. The request must include the:
   a) name, address and telephone number of the individual, group or organization;
   b) activity or purpose(s) for entering;
   c) date and expected duration of the license; and
   d) number of persons to be covered by the license.
2. The property manager shall evaluate the request based on the management plan and goals for the particular DNR property for which entry is being sought. The property manager may deny or modify the request if it is not consistent or compatible with:
   a) the management plan or goals of the particular DNR property; or
   b) any other request to enter the property.
3. A license to enter a Waterfowl Resting Area shall be in writing and note any conditions or limitations determined by theproperty manager to be appropriate.
4. An individual, group or organization issued a license to enter a Waterfowl Resting Area shall:
   a) keep the license in its possession at all times while in the WRA;
   b) comply with any conditions or limitations noted on the license; and
   c) comply with all applicable federal, state, and local laws.
5. The property manager has the authority to determine dates for special hunts in the WRA that shall require

compliance with312 IAC 8-2-3(c)(2).

6. Each DNR property manager may create forms, keep such records, and implement other procedures deemed necessary tocarry out the purposes of this policy.

IV. History

This Information Bulletin was approved by the Commission and published in the Indiana Register on November 1, 2005 at (29 IR 702). On xx, 2021, the Commission approved this First Amendment making technical amendments.

NATURAL RESOURCES COMMISSION

Information Bulletin #55 (~~Third~~ Fourth Amendment)
~~May 24, 2017~~

SUBJECT: Citizen Comments to Hearing Officers

1. Purposes

The primary purpose of this personnel directive is to encourage consistency, transparency, and efficiency in the development of hearing officer reports by employees of the Division of Hearings to the Natural Resources Commission. An employee of the Department of Natural Resources or another person making a report to the Commission may also consider this directive as guidance.

2. Anonymous Comments

(A) A hearing officer shall not include comments in a report, or consider the comments in an analysis, unless made by an individual who provides:

(1) The individual's name. An individual who uses a pseudonym does not satisfy this requirement unless the pseudonym is that of a recognized journalist or author.

(2) At least one of the following:

(i) For an Indiana resident, the city, town, or county of residence.

(ii) For a nonresident of Indiana who is resident of the United States, the state of residence.

(iii) For a nonresident of the United States, the country of residence.

(B) Personal, contact, and any other information submitted on a comment form or in an attachment may be provided to the Commission and the Department of Natural Resources and may be publicly disclosed and searchable on the Internet and in a paper docket.

3. Comments Not in English and Nonstandard Language

(A) Except as provided in this subdivision, a hearing officer shall not include comments in a report, or consider the comments in an analysis, unless made in English. Foreign phrases commonly used by the public or within a profession may be included.

(B) A hearing officer may exclude from a report, and consideration in an analysis, comments containing excessive foul, offensive, or other nonstandard language.

4. Processing Comments

(A) To help ~~assure~~ **ensure** that comments included in a report are directed to an active rule proposal, a hearingofficer shall not include comments except after the earlier of the following:

(1) publication by the Legislative Services Agency of a "Notice of Intent to Adopt" a proposed rule; or

(2) posting on the Commission's website of language given preliminary adoption for a proposed rule.

(B) If comments are received that relate to other than active rule proposals under subsection (A), the Division of Hearings shall do one of the following:

(1) if the Division of Hearings is informed the Department is contemplating a rule action, the comment shall be forwarded to the appropriate division or bureau of the Department of Natural Resources; or

(2) if the Division of Hearings has no knowledge of any contemplated rule action by the Department, the person offering the comment shall be referred to Information Bulletin #7 (~~Fourth~~ **Fifth** Amendment), "Petitions for Rule Change and for Nonrule Policy Document Change".

5. Receipt of Comments

The Commission shall accept comments filed by:

(1) Electronic mail (e-mail) using the online comment form accessible at:
~~http://www.in.gov/nrc/2377.htm~~ **https://www.in.gov/nrc/rules/rulemaking-docket/**

~~(2) Telephone, if authorized by the Commission upon preliminary adoption.~~

(~~3~~) **(2)** Regular mail, to be sent to the:

Natural Resources Commission
Division of Hearings
Indiana Government Center North
100 North Senate Avenue, Room N103
Indianapolis, Indiana 46204-2273

6. Continuing Updates

The Division of Hearings shall continue exploration of access to and implementation of improved mechanisms for the Commission's website by which to receive and assemble citizen comments. The Division of

Hearings shall periodically update the Commission concerning challenges and opportunities with respect to receipt and incorporation of citizen comments in hearing officer reports.

7. History

T~~he original version of t~~his Information Bulletin was **first** published **in the Indiana Register** on August 15, 2007 **(20070815-IR-312070470NRA)**. ~~The second~~ **On November 18, 2008, the Commission approved the F**irst Amendment **(20081210-IR-312080890NRA)** ~~includes modifications to~~ **adding** provisions for the use of English; the avoidance of nonstandard language; and inclusion of citizen comments in a report only if made after publication of a "Notice of Intent to Adopt" or posting of language given preliminary adoption. **On July 20, 2010, the Commission approved the Second Amendment (20100804-IR-312100484NRA) updating** ~~With~~ technological advances ~~since August 2007~~ regarding the processing of e-mail comments~~, some references were deleted regarding initiatives to seek improved mechanisms~~. On May 16,2017, the Commission approved the Third ~~modification~~ **Amendment (20170524-IR-312170259NRA)** ~~to this bulletin~~ updating ~~the~~ contact information ~~of~~ **for** the Commission and it's Division of Hearings. **On xx, 2021, the Commission approved this Fourth Amendment updating URL links and making other technical amendments.**

NATURAL RESOURCES COMMISSION

Information Bulletin #56 (~~Second~~ Third Amendment)

Subject: Riparian Zones within Public Freshwater Lakes and Navigable Waters

1. Purpose and Scope

A state agency may issue statements in the conduct of its affairs that interpret, supplement, or implement a statute. Where these statements are not adopted as rules and are not intended to have the effect of law, they are required to be delivered to the Legislative Services Agency for publication in the Indiana Register as nonrule policy documents[1].

The purpose of this nonrule policy document (described here as "this information bulletin") is to assist with interpreting, supplementing, and implementing the responsibilities of the Department with respect to:

(1) IC 14-26-2 and rules adopted for the Lakes Preservation Act at 312 IAC 11.
(2) IC 14-29-1 and rules adopted for the Navigable Waters Act at 312 IAC 6.

The scope of this information bulletin is to provide guidance for determining the boundaries of riparian zones within public freshwater lakes and within navigable waters. The guidance helps define the relationships between neighboring riparian owners, between easement holders and the fee ownership, and between riparian owners and public use of the waters.

In developing the guidance, consideration has been given to the following:

(1) Reported decisions by the Indiana Supreme Court and the Indiana Court of Appeals.
(2) Decisions by the Commission posted in Caddnar. An agency is required to index final orders and may rely upon indexed orders as precedent. Caddnar is the Commission's index of agency decisions. If a party to an administrative adjudication cites a precedent from Caddnar, the Commission is required to cite or distinguish the precedent in a decision[2].
(3) Expertise of the Department, the Commission, and the Advisory Council.

2. Definitions

These definitions apply to this information bulletin:

"Advisory Council" refers to the advisory council established by IC 14-9-6-1 to serve the bureau of water and resource regulation and the bureau of lands and cultural resources.
"Commission" refers to the natural resources commission established by IC 14-10-1-1.
"Department" refers to the department of natural resources created by IC 14-9-1-1.
"Lake" has the meaning set forth in 312 IAC 1-1-21.
"Lakes Preservation Act" means IC 14-26-2 including rules adopted at 312 IAC 11.
"Navigable" means:

(a) A waterway that has been declared to be navigable or a public highway by one (1) or more of the following:
(1) A court.
(2) The Indiana General Assembly.
(3) The United States Army Corps of Engineers.
(4) The Federal Energy Regulatory Commission.
(5) A board of county commissioners under IC 14-29-1-2.
(6) The commission following a completed proceeding under IC 4-21.5.

(b) To assist in the administration of this title, **Information Bulletin #3** ~~a~~ "Roster of Indiana Waterways Declared Navigable or Nonnavigable" ~~was approved by the Commission as a nonrule policy document and~~ published ~~by the Legislative Services Agency~~ **in the Indiana Register** at ~~20080611-IR-312080426NRA~~[3] **(insert new DIN).**

(c) The roster described in subsection (b) is not dispositive of whether a waterway is or is not navigable. In administrative review, the Commission would determine whether the waterway: "was available and susceptible for navigation according to the general rules of river transportation at the time [1816] Indiana was admitted to the Union. It does not depend on whether it is now navigable.... The true test seems to be the capacity of the stream, rather than the manner or extent of use. And the mere fact that the presence of sandbars or driftwood or stone, or other objects, which at times render the stream unfit for transportation, does not destroy its actual capacity and susceptibility for that use[4]". A modified standard for determining navigability would be applied to a waterway that did not exist in 1816.

"Navigable Waters Act" means IC 14 29-1 including rules adopted at 312 IAC 6.

"Ordinary high watermark" means the line as defined by 312 IAC 1-1-26[5] to establish the boundary of a navigable waterway.
"Public freshwater lake" has the meaning set forth in 312 IAC 11-2-17[6]. To assist in identifying public freshwater lakes, **Information Bulletin #61** ~~the Commission approved the~~ "Listing of Public Freshwater Lakes" ~~as a nonrule policy document. The document was~~ published ~~by the Legislative Services Agency~~ **in the Indiana Register** at ~~20091125-IR-312090920NRAand became effective on January 1, 2010~~**(insert new DIN).**
"Public waters" refers to a waterway that is either navigable or a public freshwater lake.
"Riparian owner" means the owner of land, or the owner of an interest in land sufficient to establish the same legal standing as the owner of land, bound by a waterway. The term includes a littoral owner.
"Riparian zone" means the portion of public waters where a riparian owner has particular rights that are correlative to those of citizens, under the public trust, and exclusive of those of neighboring riparian owners.
"Shore" means the shoreline or water line of a public freshwater lake or the ordinary high watermark of a navigable waterway.
"Shoreline" means "shoreline or water line" as defined by IC 14-26-2-4[7] to establish the boundary of a public freshwater lake.
"Waterway" has the meaning set forth in 312 IAC 1-1-29.5[8].

3. General Framework

A riparian owner acquires rights to public waters from a fee title that extends at least to the shore[9]. Riparian rights may be transferred in a deed or other real estate conveyance without special mention, but the person who grants the deed may specifically reserve riparian rights. If the grantor reserves riparian rights, the grantee owns land adjacent to the public waters but is not the riparian owner[10]. A fee owner may also convey the ability to exercise riparian rights through an easement[11]. If an easement separates two fee owners, including an easement or right-of-way where a governmental entity is the beneficiary, riparian rights generally extend to the centerline of the easement or right-of-way[12].

Where a waterway was navigable on the date of statehood, title passed to the state of Indiana and could not ordinarily be conveyed incident to a deed transfer made by a riparian owner[13]. Once a waterway is found to be navigable, it remains so, even if the waterway is no longer used for purposes of commercial navigation[14].

For public waters, a public trust exists for which the state of Indiana is the trustee, and the Department is the state agency primarily responsible for administering the trust[15]. For navigable waters, the public trust was recognized in the Ordinance of 1787 and in Indiana common law[16]. The Lakes Preservation Act places full power and control of public freshwater lakes in the state of Indiana to hold in trust for the use of all citizens of Indiana to preserve natural scenic beauty and for recreational purposes. Riparian owners continue to possess rights with respect to a public freshwater lake, but their rights are statutory and must be balanced with the public's rights[17].

A riparian owner along public waters typically enjoys rights that include: (1) access to the public water; (2) the placement of a pier to the line of navigability; (3) the use of accretions; and (4) reasonable use of the water for purposes such as boating and domestic use[18]. A person who is not a riparian owner, or who was not the recipient of rights conveyed to enjoy riparian ownership, is limited to the general rights of the public, such as for recreation or navigation. These rights of the general public do not include the placement of piers or the mooring of boats[19].

The right to maintain a pier exists only so far out as not to interfere with the rights of the public or with the rights of other riparian owners. "These rights can co-exist only if the riparian right to build a pier is limited by the rights of the public and of other riparian owners[20]". To assist with safe navigation, as well as to preserve the public trust and the rights of neighboring riparian owners, there ideally should be 10 feet of clearance on both sides (for a total of 20 feet) of the dividing line between riparian zones. At a minimum, a total of 10 feet is typically required that is clear of piers and moored boats, although the area may be used for loading and unloading boats and for active recreation[21].

A "reasonableness" test is applied to how far a pier may extend from the shore. The installation of a pier by a riparian owner is unreasonable if the pier interferes with the use of a public freshwater lake by others. "One point is well-settled...the boundaries of riparian property do not extend to the middle of the lake[22]". Neither do riparian boundaries extend to 200 feet from the shore of a public freshwater lake, a zone in which motorboats are limited to idle speed[23]. Any extension of a pier beyond the point required for the mooring and launching of boats may be considered unreasonable[24].

The number of persons who can obtain riparian rights for land adjacent to public waters is infinite. The resources of public waters are finite, and riparian owners and the public must enjoy them in balance. The enjoyment of

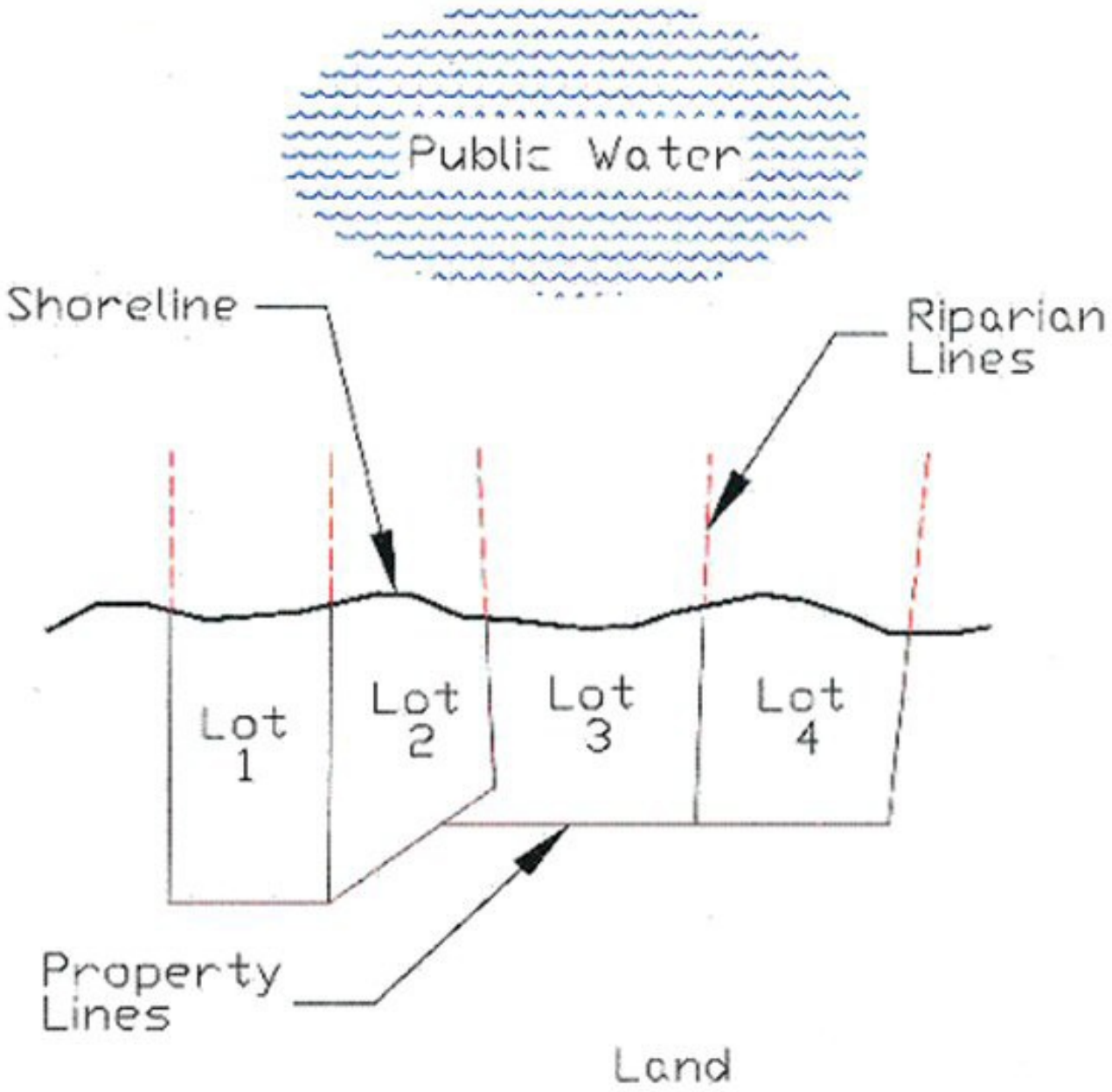
riparian rights must not overwhelm the public trust. This policy determination was underlined with recent statutory amendments to the Lakes Preservation Act that are now codified at IC 14-26-2-23[25]. The Department may require common use of a structure if needed to accommodate the competing interests of riparian owners[26].

4. Principles for Delineating the Boundaries of Riparian Zones

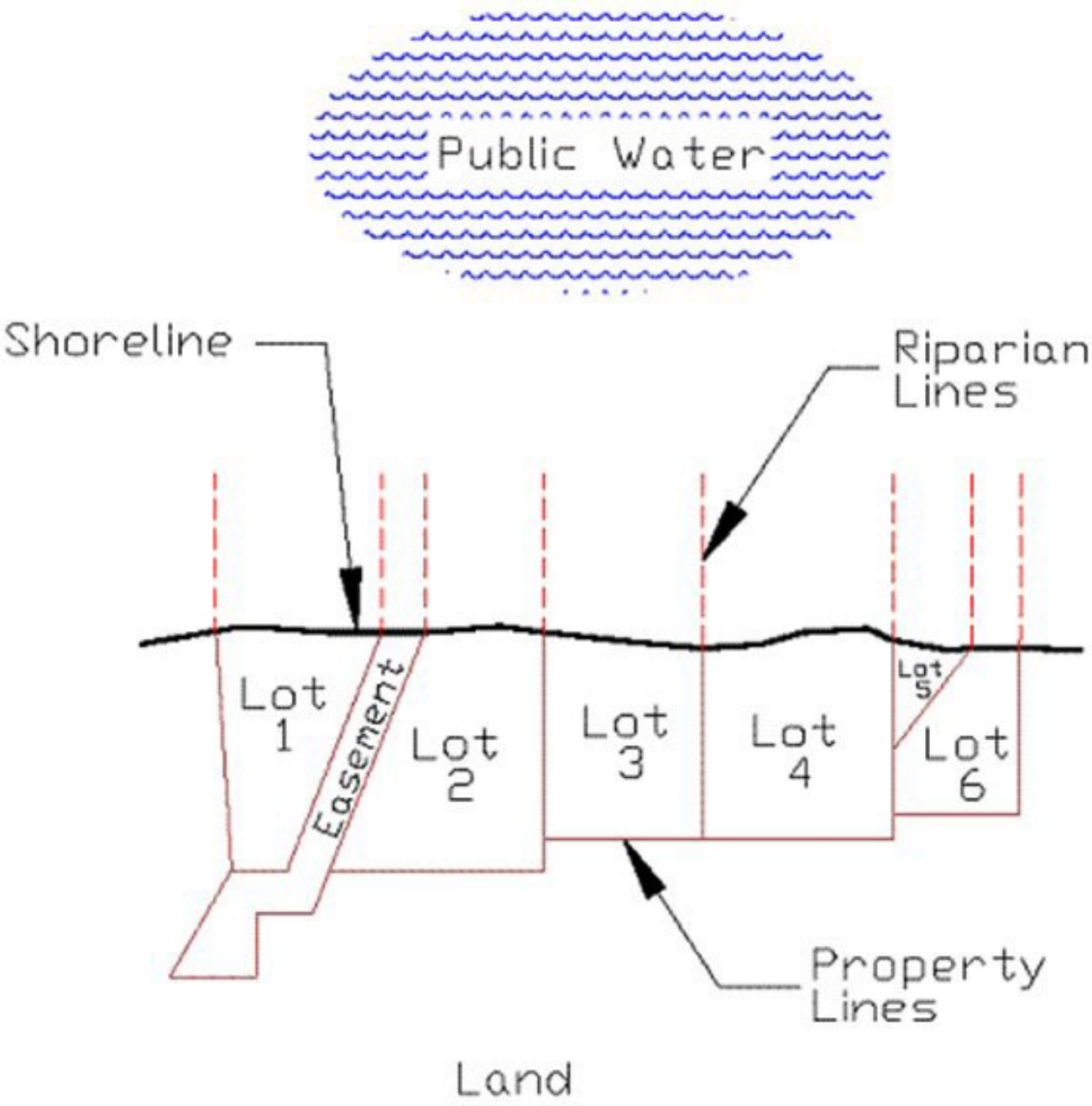
Within this general framework, boundaries of riparian zones are delineated according to the following principles. These principles seek to accommodate the diverse characteristics of Indiana's numerous public freshwater lakes[27]. They are designed to provide riparian owners with equitable access to public waters[28]. Any diagram is intended to augment and provide examples of the principle that immediately precedes it or them.

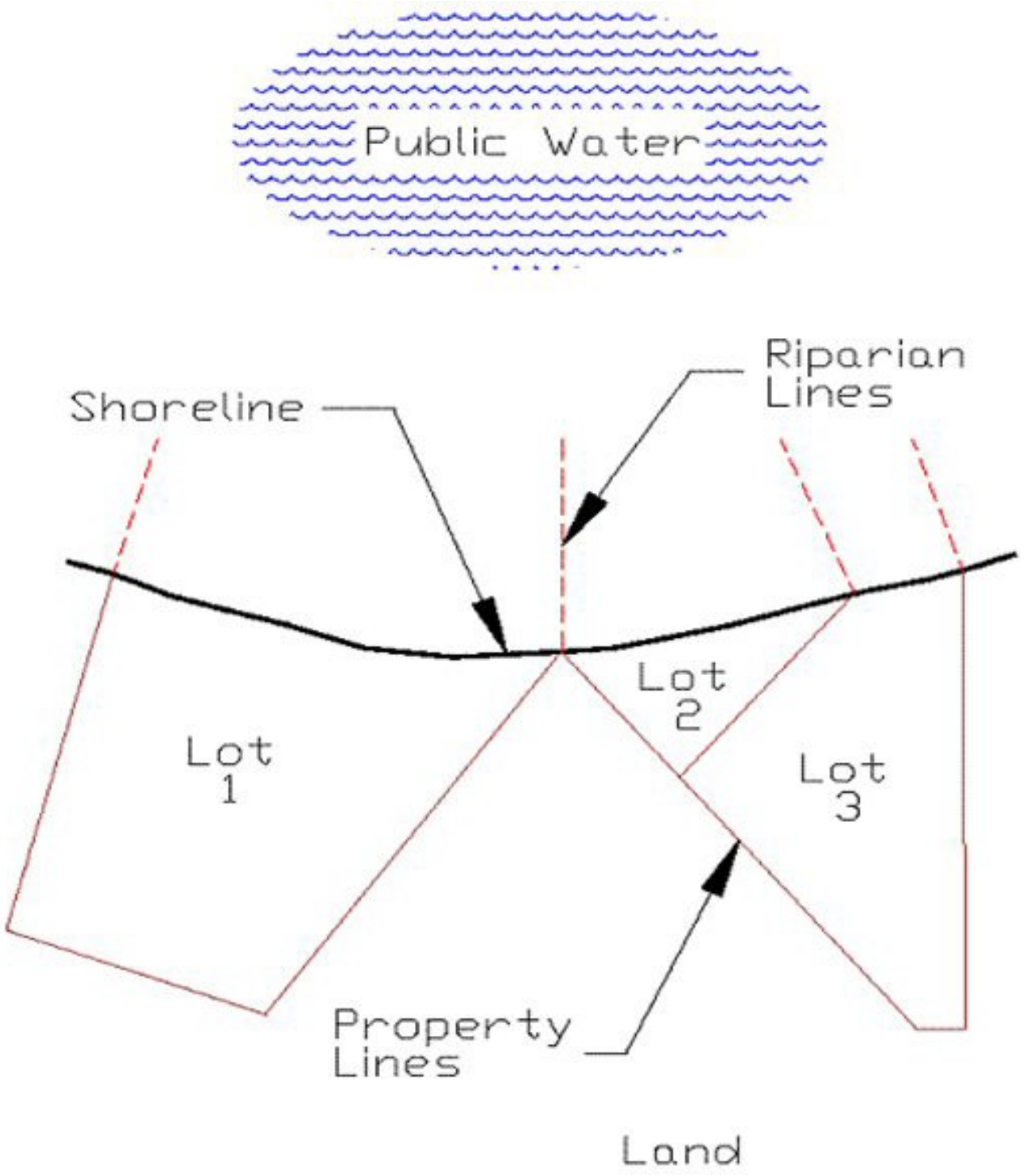
First principle: Where properties are purchased subject to a homeowner association's constitution and bylaws, or a similar document intended to govern riparian rights, the document supersedes other principles governing a determination of riparian zones[29].

Second principle: Where the shore approximates a straight line, and where the onshore property boundaries are approximately perpendicular to this line, the boundaries of riparian zones are determined by extending the onshore boundaries into the public waters[30].



Third principle: Where the shore approximates a straight line, and where the onshore boundaries approach the shore at obtuse or acute angles, the boundaries of riparian zones are generally determined by extending a straight line at a perpendicular to the shore[31]. If the boundaries of two owners intersect at the shore, or in proximity to but landward of the shore, the boundaries of the riparian zones may be formed by a perpendicular to the shore from the point of intersection of the onshore boundaries. Application of the third principle is most compelling where land owners in the vicinity have historically used a perpendicular line to divide their riparian zones, but the principle should not be applied where a result is to deprive a riparian owner of reasonable access to public waters[32].

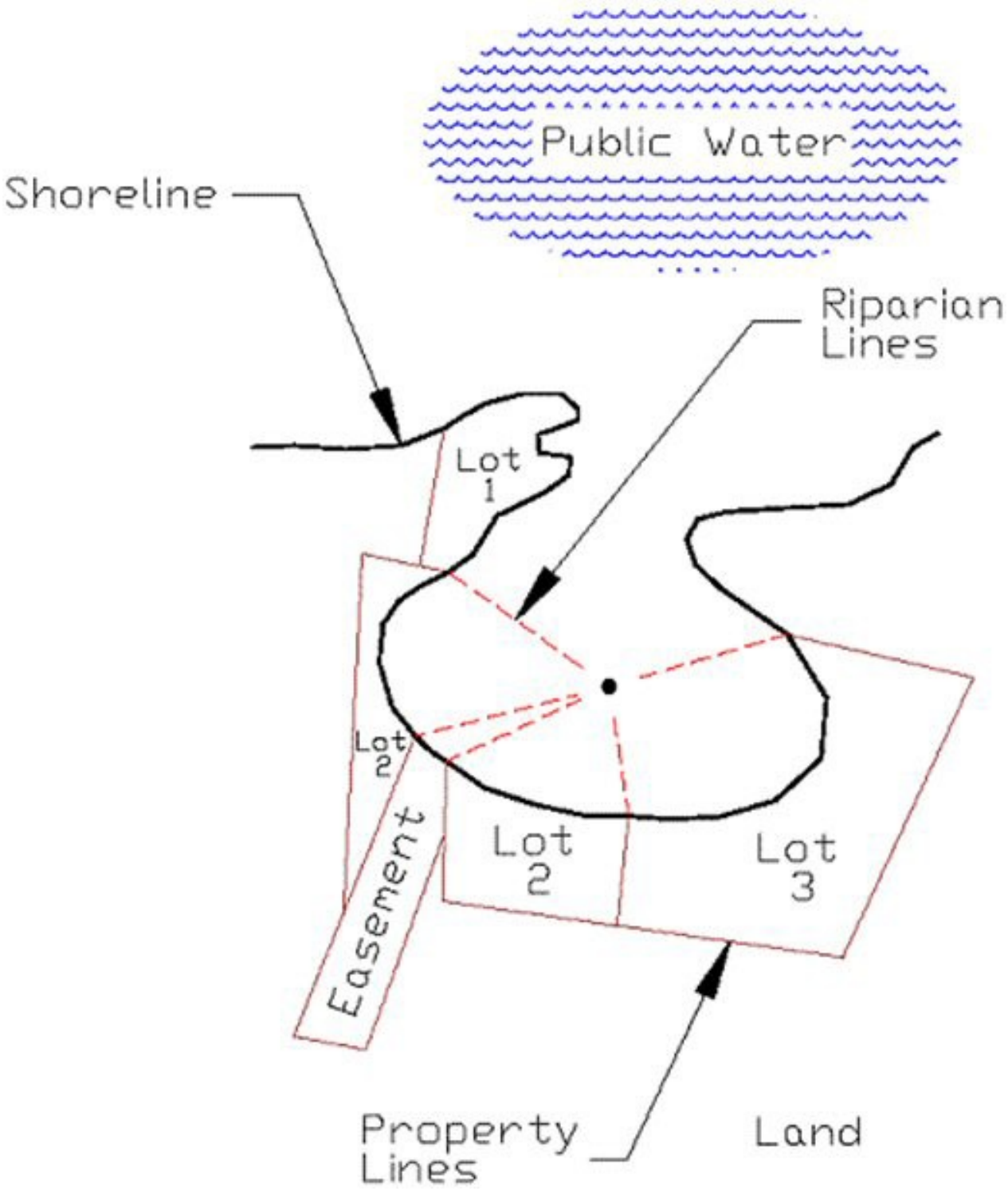

Public Water
Shoreline
Riparian Lines
Lot 1
Easement
Lot 2
Lot 3
Lot 4
Lot 5
Lot 6
Property Lines
Land

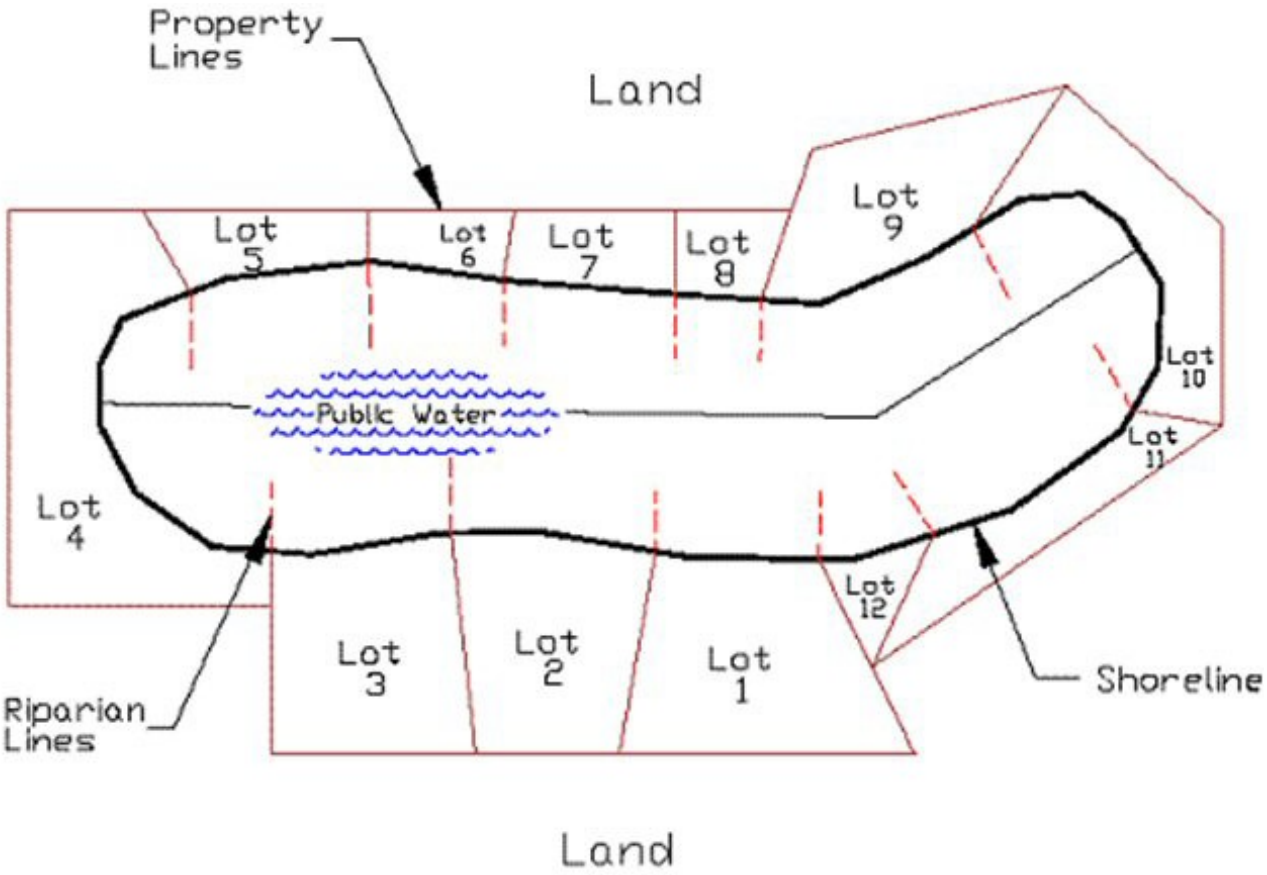


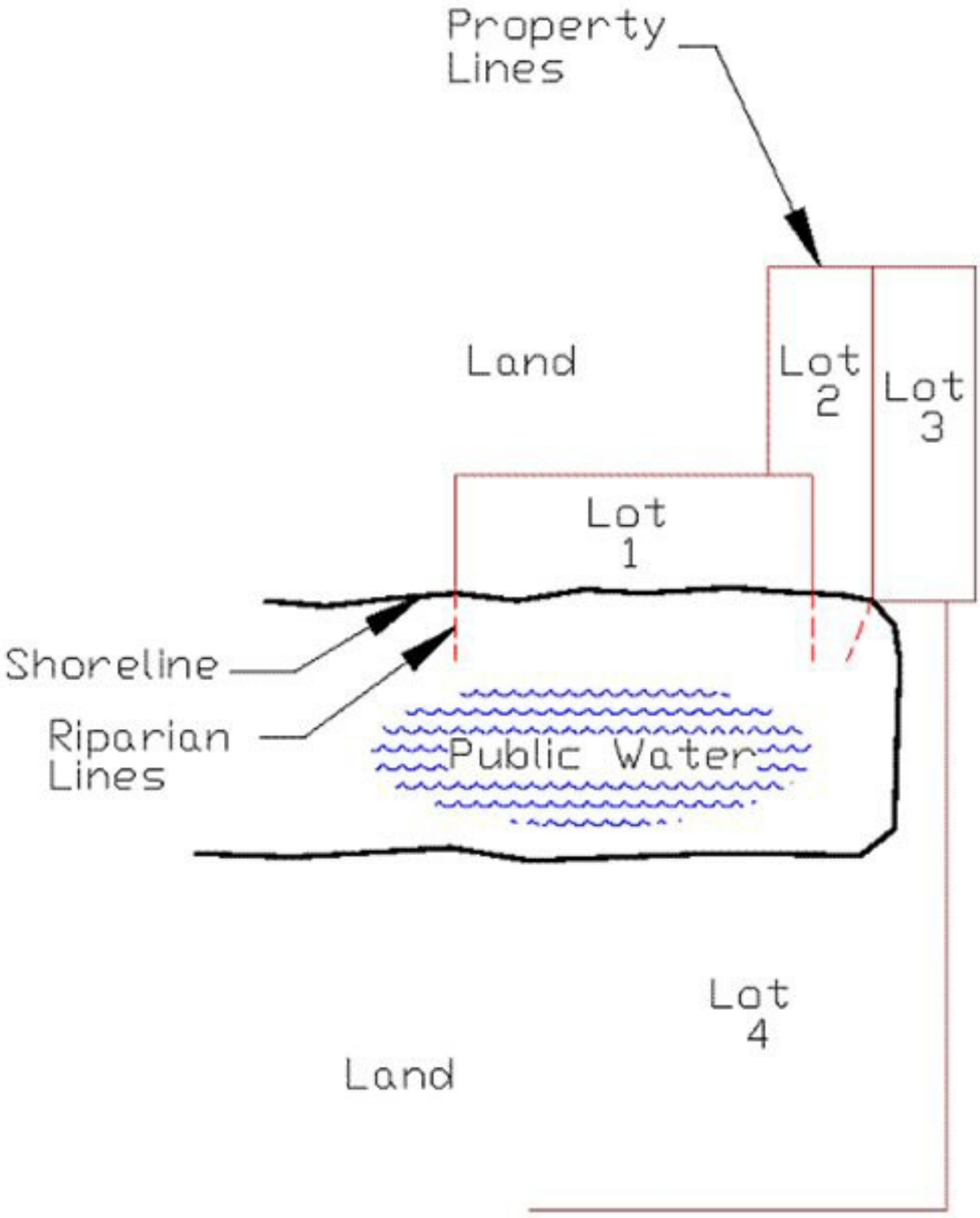
Fourth principle: Where the shore is irregular, and it is impossible to run lines at right angles to the shore for a just apportionment, the lines forming the boundaries between riparian zones should be run to divide the total navigable waterfront in proportion to the length of the shores of each owner taken according to the general trend of the shore[33]. If the navigable waterfront borders a lake that is substantially round, or is a bay that is substantially round except for its connection to the main body of the public waters, the riparian zones may be formed by running lines from each owner's shore boundaries to the center of the lake or bay. If the navigable waterfront borders a long lake or other public waters that are not substantially round, the boundaries of the riparian zones may be formed by running a line through the center of the public waters, with deflected lines run from each owner's shore boundaries to intersect the centerline at perpendiculars.

If the boundaries of two owners intersect at the shore, or in proximity to but landward of the shore, the boundaries

of the riparian zones may be formed by running a line from the owners' boundary intersection to the center of a substantially round public waters or to a center point where at the cul-de-sac of a long lake. Otherwise, for a long lake or other public waters, which are not substantially round, by running a line from the intersection of their boundaries to intersect the centerline at a perpendicular[34].




Property Lines
Land
Lot 5
Lot 6
Lot 7
Lot 8
Lot 9
Lot 10
Lot 11
Lot 12
Public Water
Lot 4
Lot 3
Lot 2
Lot 1
Riparian Lines
Shoreline
Land



5. History

This information bulletin was originally published in the Indiana Register on January 16, 2008 (**20080116-IR-312080013NRA**). **On November 18, 2008, the Commission approved** ~~Modifications included in~~ the First Amendment **(20081210-IR-312080891NRA) adding** incorporated opinions from the Court of Appeals of Indiana, which were issuedlater in 2008, as well as the adoption of 312 IAC 11-3-4. ~~The effective date of the First Amendment was January1, 2009. Modifications in the~~ **On March 16, 2010, the Commission approved the** Second Amendment **(20100331-IR-312100175NRA)** recognize~~d~~**ing** the Commission's "Listing of Public Freshwater Lakes",

include new rules governing minimum clearances for group piers, correct clerical errors, and ~~make~~ **other** technical changes. **On xx, 2021, the Commission approved this Third Amendment updating URL links and making other technical amendments.**

[1] IC 4-22-7-7(a) and (b).

[2] IC 4-21.5-3-32 and IC 4-21.5-3-27(c).

[3] In addition to publication on the website of the Legislative Services Agency, the Commission includes this nonrule policy document on its website. The Commission's website includes links at ~~http://www.in.gov/nrc/2390.htm~~, **https://www.in.gov/nrc/nonrule-policy-documents-npd/navigable-waterways-roster/,** by county and waterway, to waters declared navigable or nonnavigable.

[4] State v. Kivett, 228 Ind. 629, 95 N.E.2d 148 (Ind. 1950), subsequently referenced in this nonrule policy document as Kivett.

[5] Sec. 26. "Ordinary high watermark" means the following:
(1) The line on the shore of a waterway established by the fluctuations of water and indicated by physical characteristics.
Examples of these physical characteristics include the following:
(A) A clear and natural line impressed on the bank.
(B) Shelving.
(C) Changes in character of the soil.
(D) The destruction of terrestrial vegetation.
(E) The presence of litter or debris.
(2) Notwithstanding subdivision (1), the shore of Lake Michigan at five hundred eighty-one and five-tenths (581.5) feet I.G.L.D., 1985 (five hundred eighty-two and two hundred fifty-two thousandths (582.252) feet N.G.V.D., 1929).

[6] Sec. 17. "Public freshwater lake" means a lake that has been used by the public with the acquiescence of a riparian owner. The term does not include any of the following:
(1) Lake Michigan.
(2) A lake lying wholly or in part within the city of East Chicago, Gary, or Hammond.
(3) A privately owned body of water used for the purpose of, or created as a result of, surface coal mining.

[7] Sec. 4. As used in [IC 14-26-2], "shoreline or water line" means:
(1) if the water level has been legally established, the line formed on the bank or shore by the water surface at the legally established average normal level; or
(2) if the water level has not been legally established, the line formed by the water surface at the average level as determined by:
(A) existing water level records; or
(B) if water level records are not available, the action of the water that has marked upon the soil of the bed of the lake a character distinct from that of the bank with respect to vegetation as well as the nature of the soil.

[8] Sec. 29.5. "Waterway" means:
(1) a river;
(2) a stream;
(3) a creek;
(4) a run;
(5) a channel;
(6) a ditch;
(7) a lake;
(8) a reservoir; or
(9) an embayment.

[9] Brown v. Heidersbach, 172 Ind. App. 434, 440, 360 N.E.2d 614, 619 (Ind. 1977) cited in Bath v. Courts, 459 N.E.2d 72, 74 (Ind. App. 1984). These decisions are subsequently referenced in this nonrule policy document as "Brown" and "Bath", respectively.

[10] Watson v. Thibodeau, 559 N.E.2d 1205, 1208 (Ind. App. 1990).

[11] Several Indiana court decisions have considered whether a particular easement granted riparian rights to an easement holder. These include Brown; Klotz v. Horn, 558 N.E.2d 1096 (Ind. 1990); and, Parkison v. McCue, 831 N.E.2d 118 (Ind. App. 2005). The latter is subsequently referenced as "Parkison". A discussion of what factors are considered in determining whether an easement holder may properly exercise riparian rights is beyond the scope of this document.

[12] Rufenbarger, et al. v. Blue, et al. 11 Caddnar 185 (2007), subsequently referred to as "Rufenbarger", at page 193.

[13] Kivett. An exception to this general principle is established by IC 14-18-6 providing Indiana land patents for qualified filled lands within Lake Michigan.

[14] United States v. United States Steel Corporation, 482 F.2d 439 (7th Cir. 1973).

[15] IC 14-19-1-1(9), IC 14-29-1, and IC 14-26-2. Indiana Dept. of Nat. Res. v. Lake George, 889 N.E.2d 361 (Ind. App. 2008).

[16] Lake Sand Co. v. State, 68 Ind. App. 439, 120 N.E. 715 (Ind. App. 1918). This decision and the Ordinance of 1787 are discussed in "The Public Trust Doctrine on Navigable Waters and Public Freshwater Lakes and The Lake Management Workgroups", Information Bulletin #41 (First Amendment), Natural Resources Commission, 20070214-IR-312070073NRA (March 1, 2007).

[17] Lake of the Woods v. Ralston, 748 N.E.2d 396, 401 (Ind. App. 2001).

[18] Parkison at page 128 and Center Township Corp. v. City of Mishawaka, 882 N.E.2d 762, 767 (Ind. App. 2008).

[19] Havel & Stickelmeyer v. Fisher, et al., 11 Caddnar 110, 118 (2007) (subsequently "Havel") citing Barbee Villa Condominium Owners Assoc. v. Shrock, 10 Caddnar 23, 26 (2005).

[20] Bath at page 76.

[21] Havel at page 119 and Rufenbarger at page 194. For "group piers" on public freshwater lakes, these minimum clearances are set forth in ~~an emergency rule for 2010.~~ **312 IAC 11**. See LSA Document ~~#09-987(E)~~ **09-856(F)** at ~~20091230-IR-312090987ERA~~ 20101027-IR-312090856FRA. For "group piers" on navigable waters, they are set forth in 312 IAC 6-4-4.

[22] Zapffe v. Srbeny, 587 N.E.2d 177 (Ind. App. 1992), subsequently referenced as Zapffe, at page 180.

[23] Zapffe at page 180 and IC 14-15-3-17(b).

[24] Zapffe at page 181. On the facts, the Court of Appeals found that 50 feet from shore was a reasonable pier length. A Commission rule authorizes a general license for many temporary piers extending as far as 150 feet from shore, although the general license is contingent upon preserving navigation safety, compatibility with the activities of other riparian owners, and sufficient water depth to accomplish the purposes of the Lakes Preservation Act. 312 IAC 11-3-1. A detailed discussion of the rule section and related rule sections, pertaining to general licenses, is beyond the scope of this document.

[25] P.L. 64-2000 and P.L. 152-2006.

[26] IC 14-26-2-23(e)(2)(A) and 312 IAC 11-3-4.

[27] Zapffe at page 181.

[28] Roberts v. Beachview Properties, LLC, et al., 10 Caddnar 125 (2005), subsequently referenced as "Roberts".

[29] Lukis v. Ray, 888 N.E.2d 325 (Ind. App. 2008). This case is subsequently cited as Lukis.

[30] Bath at page 73.

[31] Nosek v. Stryker, 103 Wis.2d 633, 309 N.W.2d 868 (Wis. 1981) (subsequently "Nosek"), a decision cited favorably by the Court of Appeals of Indiana in Lukis.

[32] Pipp v. Spitler, et al., 11 Caddnar 39 (2007).

[33] Nosek at page 872. This principle was applied in Lukis.

[34] This principle was applied in Belcher and Belcher v. Yager-Rosales, 11 Caddnar 79 (2007).

NATURAL RESOURCES COMMISSION

Information Bulletin #57 (First Amendment)

SUBJECT: Cumulative Effects under the Flood Control Act

1. Purpose

The purpose of this information bulletin is to establish uniform practices for the consideration of the cumulative effects of permits sought under the Flood Control Act (IC 14-28-1) and rules adopted by the Natural Resources Commission (Commission) at 312 IAC 10. In particular, the information bulletin is intended to assist with the implementation of IC 14-28-1-22(e) and IC 14-28-1-22(f) and 312 IAC 10-2-18. The Department of Natural Resources (DNR) shall consider the cumulative effects of any construction project governed by the Flood Control Act under these policies and procedures.

As used in this information bulletin, the cumulative affects study area is defined as follows:

(A) the project area within the floodway; and

(B) those areas upstream and downstream that are determined by the DNR to have potential floodway impacts.

2. Hydrologic-Hydraulic Assessments and the Impacts to Public Safety

The DNR's Division of Water shall establish the cumulative effects study area according to the "General Guidelines for the Hydrologic-Hydraulic Assessment of Floodplains in Indiana" (December 2002). The Division of Water shall determine a project's technical cumulative effects using the procedures outlined in the text entitled "General Guidelines for the Hydrologic-Hydraulic Assessments of Floodplains in Indiana" (December 2002). Emphasis shall be given to Chapter 3, which provides specific guidance on cumulative effect assessments. The Division of Water shall also address the cumulative effect on public safety, referred to in the Flood Control Act as "unreasonable hazard to the safety of life and property", based on the definition contained in 312 IAC 10-2-40.

3. Impacts to Fish, Wildlife, or Botanical Resources

The Division of Fish and Wildlife shall conduct the evaluation of cumulative effects upon fish, wildlife, or botanical resources. The evaluation process shall include solicitation and documentation of specific comments from the DNR's Division of Fish and Wildlife and the DNR's Division of Nature Preserves. If a property administered by the DNR's Division of ~~Outdoor Recreation~~ **State Parks and** Division of Forestry~~, or Division of State Parks and Reservoirs~~ is reasonably likely to be affected by a construction project, specific comments shall be solicited anddocumentation included from the applicable Division or Divisions.

The assessment for fish, wildlife, or botanical resources shall include a review of the available documentation in the "Unity" database (examples: permits and violations) within the cumulative effects study area. The DNR shall conduct research within the DNR Unity and Natural Heritage databases, fisheries surveys, the permit application and background information provided, and conduct a field inspection, if applicable. A DNR biologist would document what was reviewed for the project file.

The cumulative effects analysis shall include documentation of the material reviewed and its location for the project file.

The DNR shall identify other actions affecting the natural resources and ecosystems in the cumulative effects study area. To assist in developing a context for the review, the DNR shall document historical and published data and findings, including IDEM listings of impaired biotic communities within the cumulative effects area. The DNR shall include known past, current, and reasonably foreseeable actions, which have a documented effect within the floodway, that may affect the fish, wildlife, or botanical resources in the cumulative effects study area.

The assessment shall consider the species identified in the "Roster of Indiana Animals, Insects, and Plants that are Extirpated, Endangered, Threatened, or Rare (also described as Special Concern)", Information Bulletin #2 (~~Fourth~~ **Eleventh** Amendment), ~~August 1, 2007,~~ published in the Indiana Register at ~~20070815-IR-312070469NRA~~ **20201125-IR-312200601NRA**. Theassessment shall discuss how and to what extent the project, plus any known past, current, and reasonably foreseeable future projects in the waterway, may affect each species, as well as a listing of all scientific literature and studies used by a DNR biologist in the analysis.

If a proposed project involves a waterway that is included by the Commission at 312 IAC 7-2 as a natural, scenic, and recreational river system in Indiana, this inclusion shall be documented in the project file. Any such river or stream segment shall be addressed under IC 14-29-6-10.

If a proposed project involves a stream reach that is within one-half mile of a nature preserve dedicated under IC 14-31-1, the nature preserve shall be named in the project file. The analysis shall provide documentation pertaining to the dedicated nature preserve, which includes the following:

(A) A full description of the upstream and downstream boundaries of the project reach and the nature preserve.

(B) Analysis of how the project, plus all known past, current, and reasonably foreseeable future projects, may affect the nature preserve.

(C) A statement by DNR whether the nature preserve will be altered in a way that requires action under IC 14-31-1-15.

The DNR shall characterize the resource and ecosystem in general terms as to the relative quality and level of disturbance from previous permitted and nonpermitted actions. The characterization shall include a general statement regarding current level of development and a general trend of cumulative effects in the study area's ecosystem.

For each cumulative effect, the DNR shall identify the important cause and effect relationships following a discussion of the "quantified and detailed information". A DNR biologist shall identify known or likely impacts to fish, wildlife, or botanical resources in the cumulative effects study area.

The DNR will also determine the magnitude and significance of the cumulative effects. A form similar to the one set forth in the Appendix shall summarize the identified effects and shall be made a part of the record on cumulative effects for the proposed project. The form shall include the project purpose, as well as alternatives considered and any required mitigation.

As a minimum, the analysis of the cumulative impacts shall include the following:

(A) Habitat loss.

(B) Habitat fragmentation.

(C) Habitat change.

(D) Habitat enhancement or conversion.

The DNR shall include in its analysis of cumulative effects a discussion of alternatives to the proposed project, as well as mitigation. As a minimum, this discussion shall include the following to offset adverse site-specific or cumulative effects:

(A) Wetland restoration.

(B) Stream enhancement.

(C) Riparian restoration and revegetation.

(D) Reforestation.

4. Listing and the Cumulative Effects Form

The DNR shall create a reference list of every known past, current, and reasonably foreseeable project that was considered as part of the cumulative effects analysis for the proposed project. The list shall be placed in and be made part of the project file. The list shall include identifying information that is sufficient for interested persons to find and obtain additional information regarding the listed projects in publicly available files.

With every Construction in a Floodway Permit's summary sheet, the DNR shall include brief comments on the relevant components of the cumulative effects analysis for the project on a form to be maintained with the permit file and be structured substantially as attached in the Appendix.

5. History

This Information Bulletin was first published in the Indiana Register on July 2, 2008 (20080702-IR-312080441NRA). On xx, 2021, the Commission approved this First Amendment making technical amendments.

APPENDIX
CUMULATIVE EFFECTS ANALYSIS FORM

Permit Application No: _____ County: _____
Project Area: _____

Project Description (include type of work being done and any materials, if applicable):

Hydrologic-Hydraulic Assessments/Impacts to Public Safety	Yes/No	Comments
Is flooding likely to occur as a result of this project?		
Will there be a risk to public safety as a result of this project?		
Impacts to Fish, Wildlife, or Botanical Resources		
Will there be an effect on botanical resources?		If yes, please list species observed:
Will any potential wetlands be affected? Any wetlands within or adjacent to project site?		If yes, list type of wetland and location to project site:
Will there be an impact to mammals, birds, reptiles, or amphibians and their habitat (including nesting areas)?		If yes, please list species observed or found evidence of:
Will there be an impact to fish or mussels and their habitat?		If yes, please list species observed or found evidence of:
Will there be an impact to the habitat of endangered species?		If yes, please list species and address taking:
Will there be increased erosion, sedimentation, or landslides?		
Were any contaminants observed?		If yes, please describe:
Is the river/stream affected by the project on the list of natural, scenic, or recreational rivers in Indiana?		
Is the river/stream affected by the project on IDEM's list of impaired biotic communities?		
Were any alternatives considered?		If yes, please describe:
Is mitigation required?		If yes, please describe:
Impacts to DNR Properties		
Is there a dedicated nature preserve on or within one-half mile of the project site?		If yes, please list name of nature preserve:
Is a state forest or state park, or fish and wildlife area, on or adjacent to the project site?		If yes, please list name of property:

NATURAL RESOURCES COMMISSION

Information Bulletin #61 (~~Seventh~~ Eighth Amendment)

SUBJECT: Listing of Public Freshwater Lakes

1. Purpose

Public freshwater lakes are governed by IC 14-26-2 (sometimes referred to as the "Lakes Preservation Act") and rules adopted by the Natural Resources Commission (the "Commission") at 312 IAC 11-1 through 312 IAC 11-5 to assist with its implementation of the Lakes Preservation Act. In 2008, the Indiana General Assembly enacted legislation to authorize the Commission to adopt and maintain, as a nonrule policy document, a listing of public freshwater lakes relying on recommendations of the Department of Natural Resources (the "DNR") and the Advisory Council (IC 14-26-2-24). The legislation provides that the listing shall include the name of the lake, the county, and specific location within the county where the lake is located. (See IC 14-26-2-24(a)(1) and IC 14-26-2-24(a)(2)). "A person may obtain administrative review from the commission for the listing or nonlisting of a lake as a public freshwater lake through a licensure action, status determination, or enforcement action under IC 4-21.5" (IC 14-26-2-24(b)). The Commission adopted rules at 312 IAC 3-1 to assist with its implementation of IC 4-21.5. The purpose of this document is to provide the listing of public freshwater lakes that was anticipated by IC 14-26-2-24.

2. Application and Amendment

Before the adoption of this document, the DNR did not have an official listing of public freshwater lakes. The listing provides the public and DNR professionals with guidance concerning which lakes the DNR administers under the Lakes Preservation Act and 312 IAC 11-1 through 312 IAC 11-5. The Commission shall amend the listing where adjudications are made pursuant to IC 14-26-2-24(b) and may amend the listing relying upon subsequent recommendations from the DNR and the Advisory Council.

The inclusion of a lake on this list does not convey access to a public freshwater lake across private property without permission.

3. Definitions

The following definitions apply to this bulletin:

(a) "Acquiescence" means "consent without conditions, tacit or passive compliance, or acceptance" as provided in IC 14-26-2-1.2. As provided in IC 14-26-2-14.5(a) "indicators of acquiescence include the following:

(1) Evidence that the general public has used the lake for recreational purposes.

(2) Evidence that the riparian owner did not object to the operation by another person of a privately owned boat rental business, campground, or commercial enterprise that allowed nonriparian owners to gain access throughout the lake.

(3) A record of regulation of previous construction activities on the lake by the (DNR) or the department of conservation (before its repeal)".

As provided in IC 14-26-2-14.5(b), acquiescence "does not exist if a lake has been adjudicated after March 12, 1947, to be a private lake and the (DNR), or the department of conservation (before its repeal), was a party to the adjudication".

(b) "Advisory council" refers to the "advisory council" created by IC 14-9-6-1.

(c) "Commission" refers to the "natural resources commission" established by IC 14-10-1-1.

(d) "DNR" refers to the "department of natural resources" created by IC 14-9-1-1.

(e) "Lake" means, as provided in IC 14-26-2-1.5, "a reasonably permanent body of water that:

(1) existed on March 12, 1947;

(2) is substantially at rest in a depression in the surface of the earth that is naturally created;

(3) is of natural origin or part of a watercourse, including a watercourse that has been dammed; and

(4) covers an area of at least five (5) acres within the shoreline or water line, including bays and coves.

(f) "Public freshwater lake", as provided in 312 IAC 11-2-17, "means a lake that has been used by the public with the acquiescence of a riparian owner. The term does not include any of the following:

(1) Lake Michigan.

(2) A lake lying wholly or in part within the city of East Chicago, Gary, or Hammond.

(3) A privately owned body of water used for the purpose of, or created as a result of, surface coal mining."

(g) "Riparian owner" means, as provided in 312 IAC 11-2-19, the owner of land, or the owner of an interest in land sufficient to establish the same legal standing as the owner of land, bound by a lake. The term includes a littoral owner.

(h) "Shoreline or water line" means the line formed, under IC 14-26-2-4, to delineate the surface boundaries of a public freshwater lake.

(i) "Watercourse" means a surface or subterranean waterbody at least a part of which is characterized by a current or flow. A waterbody does not include diffused surface water.

4. Listing of Public Freshwater Lakes

The DNR's Division of Water, Division of Law Enforcement, and Division of Fish and Wildlife worked together to develop this listing. Information was included from the Division of Water's database for permits that have been issued, as well as from field inspections by conservation officers and fisheries biologists, to determine if a lake meets the requirements for a public freshwater lake as defined by IC 14-26-2-3. The DNR limited the geographic scope of its review to the portion of Indiana north of State Road 26. The listing is as follows:

Adams County
- Rainbow Lake, located in township 25 N, 1/2 mi. NE of Geneva
- Saddle Lake, located in township 28 N, 1.75 mi. N of Decatur

Allen County
- Lake Everett, located in township 31 N, 3 mi. N of Arcola
- Schoaff Lake, located in township 31 N, 75 mi. S of US 30 on Sherman Blvd

Carroll County
- Lake Freeman, also in White County, located in township 26 N, 3 mi. N of Monticello*

Cass County
- Lake Cicott, located in township 27 N, 9 miles West of Logansport

DeKalb County
- Cedar Lake, located in township 35 N, 4 1/2 mi. NW of Waterloo
- Dunton Lake, located in township 33 N, 6 1/2 mi. S of Auburn
- Haynes Lake, located in township 34 N, 41.38889 latitude, -85.17056 longitude
- Indian Lake, 41.464027 latitude, -85.169690 longitude
- Lintz Lake, located in township 34 N, 3 1/2 mi. North of Garrett
- Lower Story Lake, located in township 35 N, 4 1/2 mi. N of Ashley, 41.51806 latitude, -85.14444 longitude
- Terry Lake, located in township 36 N, 1/2 mi. E of Hamilton
- Upper Story Lake, located in township 35 N, 4 1/2 mi. N of Ashley, 41.51417 latitude, -85.13611 longitude

Elkhart County
- Boot Lake, located in township 38 N, 4 mi. NW of Elkhart
- Buttonbush Lake, located in township 38 N
- Butts Lake, located in township 36 N, 41.60488 latitude, -85.80549 longitude
- Dock Lake, located in township 38 N, 3 mi. SE of Bristol
- East Lake, located in township 38 N, 3 mi. NE of Middlebury, also in LaGrange County
- Fish Lake, N of Millersburg, 41.579174 latitude, -85.663691 longitude
- Goose Pond, located in township 37 N, 41.693857 latitude, -85.788009 longitude
- Grange (or Orange) Lake, 41.689261 latitude, -85.766704 longitude
- Heaton Lake, located in township 38 N, 3 mi. N of Elkhart and 4 mi. E of SR 19
- Hunter Lake, located in township 38 N, 5 mi. NE of Middlebury
- Indiana Lake, located in township 38 N, 3 mi. NW of Bristol
- Norton Lake, located in township 36 N, NE edge of Goshen
- Round Lake, located in township 38 N, 3 mi. N of Bristol
- Simonton Lake, located in township 38 N, 4 mi. N of Elkhart
- Wolf Lake, located in township 37 N, 2 mi. N of Goshen on SR 15
- Yellow Creek Lake, located in township 36 N, 1 mi. N of Foraker

Fulton County
- Anderson Lake, 41.125588 latitude, -86.305194 longitude
- Barr Lake, located in township 31 N, 3 1/2 mi. NE of Athens
- Bruce Lake, located in township 30 N, 6 mi. NW of Kewanna, also in Pulaski County
- Fletcher Lake, located in township 29 N, 6 mi. SE of Grass Creek
- King Lake, located in township 31 N, 1 mi. S of Delong
- L Lake, located in township 30 N, 41.0125 lat, -86.03611 longitude
- Lake Sixteen, located in township 30 N, 2 mi. SE of Athens
- Lake Manitou, located in township 30 N, 1 mi. E of Rochester
- Landis Lake, located in township 30 N, 3 1/2 mi. SE of Akron
- Lost Lake, located in township 30 N, 4 mi. SE of Akron
- Millark Millpond, located in township 30 N, 4 mi. S of Athens
- Mt. Zion Millpond, located in township 30 N, 3 mi. SW of Athens
- Mud Lake, located in township 30 N, near Silver Lake
- Nyona Lake, located in township 29 N, 4 mi. NE of Fulton
- O'Blennis Lake, located in township 31 N, 7 mi. NW of Rochester

- Rock Lake, located in township 30 N, 7 mi. SW of Silver Lake
- South Mud Lake, located in township 29 N, 4 mi. NE of Fulton
- Town Lake, located in township 30 N, 1/2 mi. SW of Akron
- Upper Summit Lake, located in township 30 N, 2 1/2 mi. SE of Akron
- Zink Lake, located in township 31 N, 7.5 mi. NW of Rochester

Kosciusko County

- Allen Lake, located in township 34 N, 41.360785 latitude, -85.674792 longitude
- Backwater Lake (connected to Lake Webster), 1 mi. E of North Webster, 41.31312 latitude, -85.66310 longitude
- Banning Lake, located in township 33 N, 2 1/2 mi. SW of North Webster
- Barrel-and-a-half Lake, located in township 34 N, on Tri-County Fish and Wildlife Area near Syracuse
- Beaver Dam Lake, located in township 30 N, 4 mi. NW of Silver Lake
- Big Barbee Lake, located in township 33 N, 2 1/2 mi. S of North Webster
- Big Chapman Lake, located in township 33 N, 2 mi. S of Oswego
- Black Pond, 3 1/2 mi. NE of North Webster, 41.349463 latitude, -85.654778 longitude
- Boner Lake, located in township 34 N, 2 mi. E of Syracuse
- Bufflehead Pond, 2 1/2 mi. E of North Webster, 41.331419 latitude, -85.650787 longitude
- Caldwell Lake, located in township 31 N, 4 mi. N of Silver Lake
- Carr Lake, located in township 31 N, 5 mi. S of Warsaw
- Center Lake, off of North Buffalo Street in Warsaw, 41.246497 latitude, -85.857557 longitude
- Crystal Lake, located in township 32 N, 5 mi. N of Burket
- Dewart Lake, located in township 34 N, 3 mi. N of Oswego
- Diamond Lake, located in township 31 N, 3 mi. NW of Silver Lake
- Durham Lake, located in township 33 N, 5 mi. SE of North Webster
- Fish Lake, located in township 31 N, 3 1/2 mi. NE of Claypool
- Hammond Lake, located in township 34 N, on Tri-County Fish and Wildlife Area near Syracuse
- Goose Lake, 41.190117 latitude, -85.880841 longitude
- Hill Lake, located in township 31 N, 2 1/2 mi. N of Silver Lake
- Hoffman Lake, located in township 33 N, 1 1/2 mi. NW of Atwood
- Irish Lake, located in township 33 N, 3 1/2 mi. SW of North Webster
- James Lake, located in township 33 N, 1 1/2 mi. W of North Webster
- Kuhn Lake, located in township 33 N, 3 mi. SW of North Webster
- Lake Wawasee, located in township 34 N, at Syracuse
- Little Barbee Lake, located in township 33 N, 4 mi. SW of North Webster
- Little Chapman Lake, located in township 32 N, 8 mi. NE of Lakeside Park
- Little Pike Lake, located in township 32 N, 1 mi. N of Warsaw
- Long Lake, located in township 33 N, 1 1/2 mi. N-NE of North Webster
- Loon Lake, locate in township 30 N, 2.5 mi. E of Beaver Dam
- McClures Lake, located in township 30 N, 3 1/2 mi. W of Silver Lake
- Morehead Lake, located in township 33 N, 41.346939 latitude, -85.714832 longitude
- Muskellunge Lake, located in township 31 N, 4 1/2 mi. S of Warsaw
- North Little Lake, located in township 30 N, 1 mi. N of Silver Lake
- Oswego Lake, located in township 33 N, at Oswego
- Palestine Lake, located in township 31 N, at Palestine
- Pierceton Lake, located in township 32 N, 2 mi. N of Pierceton
- Pike Lake, located in township 32 N, at Warsaw
- Price Lake, located in township 33 N, 41.347380 latitude, -85.677666 longitude
- Reed Lake, located in township 31 N, 41.172259 latitude, -85.729471 longitude
- Ridinger Lake, located in township 32 N, 4 mi. S of Warsaw
- Robinson Lake, located in township 32 N, 4 mi. NW of Larwill, also in Whitley County
- Rothenberger Lake, located in township 34 N, part of Flatbelly Lake
- Sawmill Lake, located in township 33 N, 2 1/2 mi. SW of N. Webster
- Sechrist Lake, located in township 33 N, 2 1/2 mi. SW of N. Webster
- Sellers Lake, 41.152465 latitude, -85.745154 longitude
- Sheely Lake, 41.193680 latitude, -85.770207 longitude
- Sherburn Lake, 41.159643 latitude, -85.745221 longitude
- Shock Lake, on Tri-County Fish and Wildlife Area near Syracuse; 41.353446 latitude, -85.690925 longitude
- Shoe Lake, 41.307843 latitude, -85.749094 longitude
- Silver Lake, located in township 30 N, 1 mi. N of Silver Lake
- Spear Lake, located in township 34 N, 4 mi. N of Highbanks

- Stafford Lake, 41.170340 latitude, -85.778559 longitude
- Stanton Lake, 41.321955 latitude, -85.769864 longitude
- Stevens Lake, 41.176217 latitude, -85.746210 longitude
- Syracuse Lake, located in township 34 N, 2.5 mi. W of Wawasee
- Tennant Lake, 41.147152 latitude, -85.731769 longitude
- Tippecanoe Lake, 41.327180 latitude, -85.762759 longitude
- Waubee Lake (also known as Wabee Lake), located in township 34 N, S edge of Shady Banks
- Webster Lake, located in township 33 N, E edge of North Webster
- Winona Lake, located in township 31 N, 1.5 mi. E of Warsaw
- Wyland Lake, on Tri-County Fish and Wildlife Area near Syracuse
- Yellow Creek, 41.104644 latitude, -85.953391 longitude

LaGrange County

- Adams Lake, located in township 36 N, 1.5 mi. S of Woodruff
- Aldrich Lake, located in township 38 N, 1/2 mi. NE of Ontario
- Appleman Lake, 6.5 mi. E of Plato, 41.623330 latitude, -85.212805 longitude
- Atwood Lake, located in township 36 N, 1.5 mi. E of Eddy
- Basin Lake, located in township 36 N, 41.56861 latitude, -85.41222 longitude
- Big Long Lake, located in township 36 N, 3 mi. NE of South Milford
- Blackman Lake, located in township 36 N, 1 1/2 mi. NW of South Milford
- Brokesha Lake, located in township 38 N, 5 mi. W of Scott
- Buck Lake, located in township 37 N, 1 1/2 mi. SE of Seybert
- Cass Lake, located in township 37 N, 4 mi. West/NW of Shipshewana
- Cedar Lake, located 4 mi. NE of Howe, 41.738157 latitude, -85.367755 longitude
- Cline Lake, located in township 37 N at Plato, 41.649932 latitude, -85.312247 longitude
- Cotton Lake, located in township 37 N, 1 mi. SW of Shipshewana
- Dallas Lake, located in township 36 N, 4 1/2 mi. NW of Wolcottville
- Donaldson Lake, 41.718547 latitude, -85.356171 longitude
- East Lake, located in township 38 N, 3 mi. NE of Middlebury, also in Elkhart County
- Emma Lake, located in township 36 N, in Town of Emma
- Eve Lake, located in township 36 N, 1 mi. SE of Woodruff
- Fish Lake (in Plato), located 2 mi. S of Plato, 41.623132 latitude, -85.329517 longitude
- Fish Lake (in Scott), 41.760687 latitude, -85.641710 longitude
- Fennell Lake, located in township 38 N, 4 mi. NE of Brighton
- Green Lake, located in township 37 N, 4 mi. W of Flint, also in Steuben County
- Hackenburg Lake, located in township 36 N, 6 mi. NW of Wolcottville
- Hayward Lake, located in township 36 N at Stroh, 41.584621 latitude, -85.204313 longitude
- Lake of the Woods, located in township 36 N, 3 mi. S of Stroh
- Little Turkey Lake, located in township 36 N, 1/2 mi. W of Elmira
- Martin Lake, located in township 36 N, 3 mi. NW of Wolcottville
- Messick Lake, located in township 36 N, 6 mi. NW of Wolcottville
- Meteer Lake, located in township 38 N, 2 mi. E of Howe
- Mud Lake, 41.571919 latitude, -85.222943 longitude
- Mud Lake, 41.696758 latitude, -85.628828 longitude
- Nauvoo Lake, located in township 36 N, 1 1/2 mi. E of Wolcottville
- North Twin Lake, located in township 38 N, 1 1/2 mi. NW of Howe
- Olin Lake, located in township 36 N, 2 1/2 mi. NW of Wolcottville
- Oliver Lake, located in township 36 N, 2 1/2 mi. NW of Wolcottville
- Pigeon Lake, located in township 38 N, 3 mi. W of Howe
- Pretty Lake, located in township 36 N, 3 mi. W of Stroh
- Rainbow Lake, located in township 37 N, near Shipshewana
- Royer Lake, located in township 36 N, 2 mi. S of Plato
- Shipshewana Lake, located in township 37 N, 1 mi. W of Shipshewana
- South Twin Lake, located in township 38 N, 2 mi. W of Howe
- Spectacle Lakes, located in township 36 N, 3 mi. S of Stroh
- Still Lake, located in township 38 N, 1 mi. NW of Howe
- Stone Lake, located in township 38 N, 5 mi. W of Scott
- Taylor Lake (at Shipshewana), located in township 38 N, 2 mi. N of Shipshewana
- Taylor Lake (at Stroh), located in township 36 N, 2 mi. South of Stroh
- The Spreads, located in township 36 N, 41.564625 latitude, -85.420549 longitude
- Wall Lake, located in township 38 N, 2 mi. W of Orland
- Weir Lake, located in township 37 N, 1/2 mi. N of Plato

- Westler Lake, located in township 36 N, 2 mi. NW of Wolcottville
- Witmer Lake, located in township 36 N, 1 mi. W of Wolcottville
- Yost Pond, located in township 38 N, 3 1/2 mi. SW of Scott

Lake County

- Cedar Lake, located in township 34 N, E edge of Cedar Lake
- Fancher Lake, in Crown Point at Lake County Fairgrounds
- Golf Lake, located in township 35 N in St. John, 41.461607 latitude, -87.458811 longitude
- Lake George (Hobart), W edge of Hobart, 41.533333 latitude, -87.258333 longitude

LaPorte County

- Clear Lake, 6.5 mi. N of Mill Creek
- Clear Lake, located in township 36 N, 2 mi. W of Westville, also in Porter County
- Crane Lake, 41.619695 latitude, -86.764634 longitude
- Fish Trap Lake, 2 mi. N of LaPorte, 41.633436 latitude, -86.729619 longitude
- Hog Lake, 2.5 mi. N of Rolling Prairie, 41.705855 latitude, -86.630034 longitude
- Horseshoe Lake, 5 mi. S of Springville, 41.643537 latitude, -86.730878 longitude
- Hudson Lake, 41.715524 latitude, -86.551806 longitude
- Lily Lake, 1 mi. N of LaPorte, 41.612893 latitude, -86.732005 longitude
- Pine Lake, 5 mi. S of Springville, 41.627776 latitude, -86.748939 longitude
- Saugany Lake, N edge of Lake Park, 41.722778 latitude, -86.587222 longitude
- Silver Lake, 2.5 mi. S of Birchim, 41.692493 latitude, -86.593875 longitude
- Stone Lake, 41.614234 latitude, -86.745058 longitude
- Tamarack Lake, located at Kingsbury Fish and Wildlife Area near LaPorte
- Upper and Lower Fish Lake, 41.564340 latitude, -86.545977 longitude

Marshall County

- Cook Lake, S edge of Twin Lakes, 41.299782 latitude, -86.366798 longitude
- Dixon Lake, Southwest side of Plymouth, on Dixon Lake Trail, 41.326825 latitude, -86.344560 longitude
- Eddy Lake, 41.186249 latitude, -86.310274 longitude
- Flat Lake, 41.329254 latitude, -86.436989 longitude
- Gilbert Lake, 41.335538 latitude, -86.446380 longitude
- Holem Lake, 41.299782 latitude, -86.366798 longitude
- Houghton Lake, 41.234587 latitude, -86.455385 longitude
- Koontz Lake, see Koontz Lake in Starke county; located in township 34N
- Lake Maxinkuckee, located in township 32 N, S edge of Culver
- Lake of the Wood, 8 mi. SW of Bremen, 41.423786 latitude, -86.228653 longitude
- Lawrence Lake, 2.5 mi. S of Plymouth on Olive Trail, 41.296591 latitude, -86.334971 longitude
- Lost Lake, 41.198378 latitude, -86.422414 longitude
- Mill Pond, N 41 18 00 latitude, W 86 23 00 longitude
- Myers Lake, 41.301159 latitude, -86.348994 longitude
- Pretty Lake, 6 mi. SW of Plymouth, 41.326028 latitude, -86.373436 longitude
- Thomas Lake, 41.292580 latitude, -86.394986 longitude

Noble County

- Axel Lake, located in township 35 N, 2 mi. NE of Rome City
- Barr Lake, located on township 35 N, 1/2 m mi. NE of Rome City
- Bartley Lake, located in township 33 N, 3 mi. SW of Albion
- Bass Lake, located in township 33 N, 2 mi. N of Burr Oak
- Baugher Lake, located in township 33 N, 4 1/2 mi. NW of Etna
- Bear Lake, located in township 33 N, 1 1/2 mi. SW of Wolfe Lake
- Beck Lake, located in township 35 N, 3 mi. NW of Kendallville
- Big Lake, located in township 33 N, 8 mi. N of Columbia City
- Bixler Lake, located in township 34 N, edge of Kendallville
- Bowen Lake, located in township 33 N, Chain-O-Lakes State Park
- Bristol Lake, located in township 33 N, 1 1/2 mi. North of Merriam
- Bushong Lake, located in township 34 N, 2 1/2 mi. SE of Albion
- Crane Lake, 4.2 mi. S of Wolf Lake, 41.277236 latitude, -85.3482374 longitude
- Cree Lake, located in township 35 N, 8 mi. N of Kendallville
- Crooked Lake, 9 mi. N of Columbia City, 41.262075 latitude, -85.479572 longitude, also in Whitley County
- Cub Lake, 41.315410 latitude, -85.508220 longitude
- Deer Lake, 41.374131 latitude, -85.555696 longitude
- Diamond Lake, located 0.5 mi. S of Ligonier, 41.438679 latitude, -85.523519 longitude
- Dock Lake, 41.335486 latitude, -85.373623 longitude
- Dollar Lake, located in township 34 N, 41.363847 latitude, -85.484956 longitude

• Duely Lake, 41.357840 latitude, -85.631972 longitude
• Eagle Lake, located in township 34 N, 4 mi. N of Kimmell
• Engle Lake, located in township 34 N, 6 mi. N of Kimmell
• Finster, Big and Little, 41.338419 latitude, -85.368940 longitude
• Gilbert Lake, located in township 33 N, 1 1/2 mi. SE of Knapp Lake
• Gordy Lake, located in township 33 N, 2 mi. SE of Indian Village
• Grannis Lake, located in township 35 N, 41.506903 latitude, -85.325942 longitude
• Hall Lake, located in township 35 N, 3 1/2 mi. NW of Kendallville
• Harper Lake, located in township 33 N, 4 1/2 mi. NW of Ormas
• Hawk Lake, located in township 33 N, 1 mi. NE of Wolfe Lake
• Henderson Lake, located in township 35 N, 1/2 mi. W of Kendallville
• High Lake, located in township 33 N, 2 mi. SW of Wolfe Lake
• Hindman Lake, located in township 33 N, 3 mi. NE of Wilmot
• Horseshoe Lake, located in township 33 N, 1 1/2 mi. SW of Smalley Lake
• Indian Lake at Ligonier, located in township 35 N, 41.45444 latitude, -85.58000 longitude
• Indian Lake at Albion, located in township 34 N, SE of Albion, 41.37500 latitude, -85.4011 longitude
• Johnson Lake, located in township 33 N, 2 1/2 mi. E of Wilmot
• Jones Lake, located in township 35 N, 2 mi. W of Rome City
• Keister Lake, located in township 33 N, 1 mi. E of Merriam
• King Lake, 41.346632 latitude, -85.227287 longitude
• Knapp Lake, located in township 33 N, 3 mi. NE of Wilmot
• Latta Lake, located in township 35 N, 3 mi. E of Rome City
• Lindsey Lake, located in township 33 N, 1 mi. E of Merriam
• Little Bause Lake, located in township 33 N
• Little Long Lake, located in township 35 N, 1 mi. North of Kendallville
• Little Whitford Lake, 41.456908 latitude, -85.233903 longitude
• Loon Lake, 3 mi. W of SR 109 on County Line Road, 41.272182 latitude, -85.539387 longitude, also in Whitley County
• Long Lake, located in township 34 N, 3 1/2 mi. SW of Albion
• Lower Long Lake, 41.3762 latitude, -85.4903 longitude
• Metz Lake, located in township 33 N, 1 mi. E of Washington Center
• Miller Lake, located in township 33 N, E side of SR 9
• Moss Lake, located in township 33 N, 1 1/2 mi. N of Wilmot
• Mud Lake, located in township 33 N in Chain-O-Lakes State Park
• Muncie Lake, located in township 33 N, 2 1/2 mi. E of Wolf
• Norman Lake, located in township 33 N, 4 mi. NE of Merriam
• Petty Lake, located in township 33 N, 7 mi. E of Wolf Lake
• Pleasant Lake, located in township 33 N, 2 mi. NE of Wolf Lake
• Port Mitchell Lake, located in township 34 N, 3 mi. NE of Wolf Lake
• Rider Lake, located in township 33 N, 41.353173 latitude, -85.630540 longitude
• Rivir Lake, located in township 33 N, in Chain-O-Lakes State Park
• Round Lake, located in township 35 N, 3 mi. NE of Kendallville
• Sacarider Lake, located in township 34 N, 3 mi. SW of Kendallville
• Sand Lake, located in township 33 N, in Chain-O-Lakes State Park
• Schauweker Lake, located in township 34 N, 41.361037 latitude, -85.418953 longitude
• Schockopee Lake, located in township 35 N, 3 1/2 mi. NE of Kendallville
• Skinner Lake, located in township 34 N, 3 mi. E of Albion
• Silver Lake, located in township 34 N, 3 mi. E of Albion
• Smalley Lake, located in township 33 N, 3 1/2 mi. E of Wilmot
• Sparta Lake, located in township 34 N, W edge of Kimmel
• Steinbarger Lake, located in township 35 N, 2 1/2 mi. SW of Rome City
• Summit Lake, located in township 33 N, 4 1/2 mi. NW of Ege
• Stump Lake, located in township 33 N, 41.328349 latitude, -85.586907 longitude
• Sweet Lake, located in township 34 N, 3 mi. E of Albion
• Sylvan Lake, located in township 35 N, at Rome City
• Tamarack Lake, located in township 35 N, 3 mi. SE of Wolcottville
• Tamarack Lake, 2.5 mi. SW of Rome City, 41.495612 latitude, -85.421185 longitude
• Upper Long Lake, located in township 34 N, 2.5 mi. N of Wolf Lake
• Village Lake, located in township 39 N, at Indian Village
• Waldron Lake, located in township 35 N, 2 1/2 mi. W of Rome City
• Weber Lake, located in township 33 N, 41.338488 latitude, -85.393084 longitude

- Wible Lake, located in township 35 N, 2 mi. N and 1 mi. W of Kendallville
- Williams Lake, located in township 33 N, 2 mi. E of Wolf Lake
- Wilmot Pond (also known as Rider Lake), located in township 33 N, at Wilmot
- Wolf Lake, located in township 33 N, at Wolf Lake on SR 109

Porter County

- Canada Lake, located in township 36 N, 4 mi. N of Valparaiso
- Carlson Pond, located in township 36 N, 41.5373 latitude, -87.0220 longitude, on Moraine Nature Preserve
- Clear Lake, located in township 36 N, 2 mi. W of Westville, 41.5525 latitude, -86.9310 longitude, also in LaPorte County
- Flint Lake, located in township 35 N, 3 mi. N of Valparaiso
- Lake Eliza, located in township 35 N, 8 mi. SW of Valparaiso
- Long Lake, located in township 36 N, 4 mi. N of Valparaiso
- Loomis Lake, located in township 35 N, 2 1/2 mi. N of Valparaiso
- Mink Lake, located in township 36 N, 4 1/2 mi. N of Valparaiso
- Morgan Lake, located in township 36 N, 1 mi. SW of Chesterton
- Moss Lake, located in township 36 N, 2 1/2 mi. N of Valparaiso
- Wauhob Lake, located in township 36 N, 5 mi. N of Valparaiso

Pulaski County

- Bruce Lake, located in township 30 N, 6 mi. NW of Kewanna, also in Fulton County
- Langenbaum Lake, located in township 31 N, 3 mi. E of Ora, also in Starke County

St. Joseph County

- Chamberlain Lake, located in township 37 N, SW of South Bend
- Deer Lake, located in township 38 N, 10 mi. NW of South Bend
- Goodman Lake, located in township 36 N, 41.603558 latitude, -86.314289 longitude
- Kale Lake, located in township 36 N, 4 mi. N of North Liberty
- Mud Lake, located in township 38 N, 5 mi. N of Lydick
- North Chain (Bass) Lake, located in township 38 N, at Lydick
- Pinhook Park Lake, located in township 38 N, at South Bend
- Pleasant Lake, located in township 35 N, 1/2 mi. S of Lakeville
- Riddles Lake, located in township 35 N, 3 mi. SE of Lakeville
- Rupel Lake, located in township 36 N, 1 mi. SE of North Liberty
- Sously Lake, located in township 36 N, 2 mi. N of North Liberty
- South Chain Szmanda Lake, located in township 37 N, 6 mi. W of South Bend
- South Clear Lake, 38 N, 9 mi. NW of South Bend
- St. Joseph Lake, located in township 38 N, at University of Notre Dame
- St. Mary's Lake, located in township 38 N, at University of Notre Dame

Starke County

- Bass Lake, located in township 32 N, 4 mi. S of Knox
- Eagle Lake, located in township 33 N, 3 mi. NE of Ober
- Hartz Lake, located in township 32 N, 3 mi. E of Ora
- Koontz Lake, located in township 34 N, 3 mi. E of Hamlet
- Langenbaum Lake, located in township 31 N, 3 mi. E of Ora, also in Pulaski County
- Round (Silver) Lake, located in township 32 N, 5 mi. NE of North Judson

Steuben County

- Ball Lake, located in township 36 N, 1 1/2 mi. NW of Hamilton
- Barton Lake (also called Hog Lake), located in township 38 N, 5 1/2 mi. NE of Orland
- Beaver Dam Lake, located in township 38 N, 3 mi. SW of Orland
- Bass Lake, located in township 37 N, 6 mi. W of Angola
- Bell Lake, located in township 38 N, 4 mi. SE of Orland
- Big Bower Lake, located in township 36 N, 3 mi. NW of Pleasant Lake
- Big Otter Lake, located in township 38 N, 5 mi. North of Angola
- Big Turkey Lake, located in township 36 N, 1/2 mi. E of Stroh
- Black Lake, located in township 36 N, 4 mi. NW of Pleasant Lake
- Booth Lake, located in township 37 N, 1 mi. W of Angola
- Buck Lake, located in township 37 N, 2 mi. W of Angola
- Cemetery Lake, located in township 38 N, 1 mi. S of Fremont
- Center Lake, located in township 37 N, 1 mi. NW of Angola
- Chair Factory Lake, located in township 38 N
- Clear Lake, located in township 38 N, 6 mi. E of Fremont
- Crooked Lake, located in township 37 N, 5 mi. NW of Angola

• Deep Lake, located in township 37 N, 3 1/2 mi. SW of Orland
• Eaton Lake, located in township 38 N, 1/2 mi. SW of Fremont
• Failing Lake, located in township 38 N, 41.706330 latitude, -84.999266 longitude
• Fish Lake, located in township 38 N, 2 mi. N of Fremont
• Fox Lake, located in township 37 N, 1 mi. SW of Angola
• Golden Lake, located in township 36 N, 4 mi. SW of Angola
• Gooseneck Lake, located in township 36 N, 1 mi. E of Pleasant Lake
• Green Lake, located in township 37 N, 4 mi. W of Flint, also in LaGrange County
• Green Lake, located in township 38 N, 4 mi. W of Fremont
• Hamilton Lake, located in township 36 N, at Hamilton, IN
• Handy Lake, located in township 38 N, 1 1/2 mi. SE of Clear Lake
• Henry Lake, located in township 36 N, 1 1/2 mi. SE of Wildwood
• Hog Lake, located in township 38 N, 2.5 mi. W of Jamestown, 41.7556 latitude, -85.0619 longitude
• Hogback Lake, located in township 37 N, 5 1/2 mi. W of Angola
• Howard Lake, located in township 37 N, 5 1/2 mi. W of Angola
• Jackson Lake, 41.554502 latitude, -84.955205 longitude
• Jimmerson Lake, located in township 38 N, 7 mi. NW of Angola
• Johnson Lake, located in township 36 N, 3 1/2 mi. N of Hamilton
• Lake Anne, located in township 38 N, 1/4 mi. E of Clear Lake
• Lake Arrowhead, located in township 37 N, 6 1/2 mi. W of Angola, 41.6209 latitude, -85.1583 longitude
• Lake Charles East, located in township 37 N, 41.699860 latitude, -85.004900 longitude
• Lake Charles West, 41.702892 latitude, -85.012461 longitude
• Lake Gage, located in township 38 N, 3 mi. SE of Orland
• Lake George, located in township 38 N, 1 mi. N of Jamestown
• Lake James, located in township 37 N, 3 mi. NW of Angola
• Lake Pleasant, located in township 38 N, 4 mi. NE of Orland
• Lake Syl-Van, located in township 38 N, 4 mi. SE of Orland
• Lime Lake, located in township 38 N, 1/4 mi. N of Lake Gage
• Lime-Kiln Lake, located in township 38 N, 1 1/2 mi. NE of Helmer
• Little Bower Lake, located in township 36 N, 2 mi. NW of Pleasant Lake
• Little Center Lake, located in township 36 N, 41.641877 latitude, -85.006473 longitude
• Little Long Lake (also known as Long Lake), located in township 38 N, north of Handy Lake, 41.746550 latitude, -84.806556 longitude
• Little Otter Lake, located in township 38 N, 5 mi. N of Angola
• Little Turkey Lake, located 1.5 mi. W of Hudson on CR 700S to 750W
• Long Lake, located in township 36 N, 1/2 mi. N of Pleasant Lake
• Loon Lake, located in township 37 N, 5 mi. NW of Angola
• Marsh Lake, located in township 38 N, 6 mi. N of Angola
• McClish Lake, located in township 36 N, 1 mi. NW of Helmer
• Meserve Lake, located in township 36 N, 1/2 mi. E of Pleasant
• Middle Center Lake, located in township 36 N, 41.643501 latitude, -85.011718 longitude
• Milldam Lake, located in township 38 N, 1/2 mi. N of Orland
• Mirror Lake, located in township 38 N, 1/2 mi. E of Clear Lake – between Long and Handy Lakes
• Mud Lake at Snow Lake, 41.743204 latitude, -85.026589 longitude
• Mud Lake, near Jamestown, located in township 36 N, 2 1/2 mi. NW of Pleasant Lake
• Mud Lake, near Moonlight, located in township 38 N, 2 mi. E of Ray
• Otter Lake (also known as West Otter), located in township 37 N, 9 mi. W of Angola, 41.63583 latitude, -85.16833 longitude
• Pigeon Lake, located in township 37 N, 4 mi. E of Angola
• Pleasant Lake, located in township 36 N in Pleasant Lake
• Round Lake (Clear), located in township 38 N, 2 mi. E of Ray
• Round Lake (Otsego), located in township 37 N, 6 1/2 mi. NW of Angola
• Round Lake (Gage), located in township 36 N, 3 mi. N of Hamilton
• Seven Sisters Lakes, located in township 38 N, 5 mi. N of Angola
• Shallow Lake, located in township 37 N, 4 mi. SW of Orland
• Silver Lake, located in township 37 N, 4 mi. W of Angola
• Snow Lake, located in township 38 N, 6 mi. N of Angola
• Stayner Lake, located in township 37 N, near junction of US 20 and SR 327
• Tamarack Lake, located in township 38 N, 2 1/2 miles East of Orland
• Walters Lake, located in township 38 N, 1 1/2 mi. NW of Fremont
• Warner Lake, located in township 38 N, 1 1/2 mi. SE of Orland

• West Otter Lake, located in township 37 N, 9 mi. W of Angola on US 20

Wabash County

• Bull Lake, located in township 29 N, 40.994428 latitude, -85.891584 longitude
• Long Lake, located in township 29 N, 1 mi. N of Laketon
• Lotz Lake, located in township 30 N, 1 1/2 mi. NE of Disko
• Luken's Lake, located in township 29 N, 4 mi. N of Roann
• McColley Lake, located in township 29 N, 5 mi. North of Roann
• Round Lake, located in township 29 N, E edge of Laketon
• Twin Lakes, located in township 30 N, 1/2 mi. E of Disko

White County

• Lake Freeman, also in Carroll County, located in township 26 N, 3 mi. N of Monticello*
• Lake Shafer, located in township 27 N, 2 mi. N of Monticello*

Whitley County

• Blue Lake, located in township 32 N, 2 mi. NW of Churubusco
• Brown Lake, located in township 38 N, 1 1/2 mi. N of Etna
• Cedar Lake, 5 mi. N of Columbia City, 41.253728 latitude, -85.452185 longitude
• Crooked Lake, located in township 32 N, 9 mi. N of Columbia City, also in Noble County
• Goose Lake, located in township 32 N, 3 1/2 mi. SE of Etna
• Larwill Lake, located in township 31 N, 1/4 mi. S of Larwill
• Little Cedar Lake, located in township 33 N, 41.248419 latitude, -85.439773 longitude
• Little Wilson Lake, located in township 32 N, 3 mi. E of Larwill
• Loon Lake, located in township 33 N, 2 mi. E of Etna; 1 mi. S of Ormas, also in Noble County
• Mud Lake, located in township 32 N, 2 mi. S of Etna
• New Lake, located in township 32 N, 1 1/2 mi. SE of Etna
• Old Lake, located in township 33 N, 1 mi. E of Etna
• Rine Lake, located in township 32 N, 3 1/2 mi. N of Larwill
• Robinson Lake, located in township 32 N, 4 mi. NW of Larwill, also in Kosciusko County
• Round Lake, located in township 32 N, 7 1/2 mi. NE of Columbia City
• Scott Lake, located in township 32 N, 1 1/4 mi. SW of Etna
• Shriner Lake, located in township 32 N, 8 mi. NE of Columbia City
• Tadpole Lake, located in township 32 N, 3 mi. N of Larwill
• Troy Cedar Lake, located in township 32 N, 8 mi. NW of Columbia City
• Wilson Lake, located in township 32 N, 3 mi. E of Larwill

* The authority of the DNR and of the Commission to govern Lake Freeman and Lake Shafer is abridged by IC 14-26-2-15.

5. Administrative Review of Listing or Nonlisting

A person may obtain administrative review from the Commission for the listing or nonlisting of a lake as a public freshwater lake through a licensure action, status determination, or enforcement action, as anticipated by IC 14-26-2-24(b), by filing a petition under IC 4-21.5-3-7 at the following address:

Division of Hearings
Natural Resources Commission
Indiana Government Center North
100 North Senate Avenue, Room N103
Indianapolis, IN 46204-2273; or
nrcaopa@nrc.in.gov

6. History

This Information Bulletin was first ~~The Commission approved this initial listing at a regular meeting conducted on November 17, 2009, and was~~ published **in the Indiana Register on x,x, 2009** (20091125-IR-312090920NRA). **On October 1, 2010, the Commission approved t**~~T~~he First Amendment ~~to the listing became effective October 1, 2010~~ (20101006-IR-312100620NRA) **updating the listing**. **On May 17, 2011, t**~~T~~he Commission approved the Second Amendment ~~to this bulletin on May 17, 2011~~ (20110601-IR-312110313NRA). **On March 18, 2014, the Commission approved t**~~T~~he Third Amendment ~~to this bulletin was approvedby the Commission on March 18, 2014~~ (20140402-IR-312140098NRA). On September 16, 2014, the Commission approved the **Fourth Amendment** (20140924-IR-312140381NRA) addi~~tion~~**ing** ~~of~~ Wilmot Pond (Noble County) and Little Long Lake (Steuben County). ~~effective October 1,2014 (20140924-IR-312140381NRA).~~ On January 19, 2016, the Commission approved the **Fifth Amendment** (20160127-IR-312160050NRA) remov~~al~~**ing** ~~of~~ Pine Canyon Lake and Rhodes Lake (both in Steuben County). ~~as the Fifth Amendment on February 1, 2016 (20160127-IR-312160050NRA).~~ **On January 17, 2017** ~~T~~**t**he **Commission approved the** Sixth Amendment (20170301-IR-312170046NRB) modifi~~ed~~**ing** the name and location of Mill Pond; remov~~ed~~**ing** the requirement that DNR update the Commission ~~and~~ to propose any amendments to this

document no later than January 1, 2017; and relocat~~ed~~**ing** section 6 of this bulletin. **On May 17,2017, t**~~T~~he **Commission approved the** SeventhAmendment (**20170531-IR-312170269NRA)** ~~to this bulletin~~ updat~~ed~~**ing** the contact information for the Commission and its Division of Hearings. **On xx, 2021, the Commission approved this Eighth Amendment making technical amendments.**

NATURAL RESOURCES COMMISSION

Information Bulletin #62 (First Amendment)
~~**July 1, 2010**~~

Subject: Prospecting in Indiana

1. Purpose

The Navigable Waterways Act (IC 14-29~~-1-8~~), Flood Control Act (IC 14-28~~-1-5~~), and rules adopted at 312 IAC 6 and 312 IAC 10 govern prospecting in waterways in Indiana. "Prospecting" is defined in 312 IAC 6-2-6.8 as activities conducted in preparation for or to remove hard mineral resources, including (1) gold, (2) platinum, (3) silver, (4) lead, (5) copper, (6) diamonds and other gemstones, and (7) other similar materials. Rules adopted at 312 IAC 8 also govern activities on properties owned or controlled by the Department of Natural Resources (DNR) and require a permit for a person to conduct prospecting on a nonnavigable waterway within a DNR property. The DNR is the riparian owner for a navigable waterway that is adjacent to a DNR property and would be treated as any other riparian owner. This information bulletin provides guidance on locations where prospecting is likely to impact endangered species of fish and mussels, clarifies the permission required to conduct prospecting on navigable and nonnavigable waterways, and includes information on the proper disposal of contaminants that are found while prospecting.

2. List of Navigable Waterways and Definition of DNR Property

The list of navigable waterways can be found on the Natural Resources Commission's website at ~~http://www.in.gov/nrc/2375.htm~~ **https://www.in.gov/nrc/nonrule-policy-documents-npd/navigable-waterways-roster/** or a written request can be sent to the DNR, Division of Fish and Wildlife Environmental Unit, 402 West Washington Street, Room W273, Indianapolis, IN 46204.

"DNR property" has the meaning set forth in 312 IAC 8.

3. DNR Properties

Written permission must be obtained from the property manager, or from the property manager's designee, before prospecting in a nonnavigable waterway or in a riparian zone of a navigable waterway that is located along a DNR property. On a DNR property, only panning would be authorized. To obtain written permission for prospecting on a DNR property, a departmental form must be completed and submitted to the property's office. Organized events by private organizations may be subject to special event fees in accordance with 312 IAC 8-2-15. Using reasonable discretion, the property manager is authorized to issue, condition, deny, suspend, or revoke an application for prospecting. In the exercise of discretion, the following and other pertinent factors and principles apply:

(a) Proximity to sensitive archaeological, historical, or ecological resources. Examples include caves or areas that contain relevant rare, threatened, or endangered species such as fish and mussels.
(b) A scheduled resource management activity, such as a prescribed burn.
(c) Any other factor reasonably consistent with proper use and protection of the particular DNR property, including implementation of a master plan.

A person who is aggrieved by a determination by the property manager may seek informal review from the division director. A determination by the division director is subject to administrative review by the Natural Resources Commission under 312 IAC 3-1.

4. Affected Persons with Riparian Ownership

For purposes of a navigable waterway that is located along a DNR property, a person who wishes to conduct prospecting shall proceed as described in section 3 of this information bulletin. A person who wishes to conduct prospecting in a navigable waterway that is not located along a DNR property must obtain written permission from an affected riparian owner. The DNR shall consider a person is an affected riparian owner for the adjacent portion of a navigable waterway that is (a) the lesser of one-quarter (1/4) of the width of the waterway or fifty (50) feet into the waterway from the ordinary high watermark; or (b) fifty feet (50) from any improvement of the riparian owner. Examples of an "improvement" include a diving platform, pier, or jetty. For a nonnavigable waterway, a person who wishes to conduct prospecting must obtain written permission from the property owner or owners.

5. Locations of Endangered Species

Indiana waterways contain mussels and endangered species of fish. A person shall exercise special care to avoid a "take" of mussels, mussel shells, and endangered species of fish, particularly in the locations listed below. "Take", as defined in IC 14-22-34-5, "means to (1) harass, hunt, capture, or kill; or (2) attempt to harass, hunt, capture, or kill". Please note this listing is not exclusive, and endangered species and mussels are also found in other locations.

Body of Water	County
Big Creek	Posey County
East Fork White River	Daviess, Pike, Dubois, Martin, and Lawrence Counties
Eel River	Cass, Miami, and Wabash Counties
Fish Creek	Dekalb and Steuben Counties
Elkhart River	Elkhart County
Hanna Creek	Union County
Kankakee River	Lake and Newton Counties
Maumee River	Allen County
Mill Creek	Wabash County
Ohio River	Vanderburgh, Warrick, Spencer, Harrison, Jefferson, Dearborn, Floyd, and Switzerland Counties
Patoka River	Dubois County
St. Mary's River	Allen County
St. Joseph River	Allen, Dekalb, Elkhart, and St. Joseph Counties
Salamonie River	Huntington County
Sugar Creek	Johnson, Shelby, and Hancock Counties
Wabash River	Carroll, Cass, Fountain, Gibson, Knox, Miami, Posey, Tippecanoe, Warren, and Wabash Counties
Tippecanoe River	Tippecanoe, White, Carroll, Pulaski, Starke, Fulton, Marshall, and Kosciusko Counties
White River (Main Stem)	Gibson, Pike, and Knox Counties
Whitewater River (including West Fork of Whitewater River)	Dearborn and Franklin Counties

6. Disposal of Contaminants

Lead, mercury, and other metal contaminants are routinely found by prospectors in Indiana waterways. When a contaminant is found in these waterways, it should be retained and taken to the nearest recycling center that accepts lead, mercury, and other metals. A list of these recycling centers can be found by contacting the county's Solid Waste Management District, contact information is available online at: ~~http://www.in.gov/recycle/5758.htm,~~ **https://www.in.gov/idem/recycle/** or call the Indiana Department of Environmental Management's Office of Pollution Prevention and Technical Assistance at 1-800-988-7901.

7. Contact Information

Questions can be directed to the DNR's, Division of Fish and Wildlife:

Linnea Petercheff
Indiana DNR, Division of Fish and Wildlife
402 West Washington Street, Room W273
Indianapolis, IN 46204
E-mail: lpetercheff@dnr.in.gov
Phone: (317) 233-6527

8. ~~Effective Date and~~ **History**

This Information Bulletin was first published in the Indiana Register on ~~The effective date of this information bulletin is~~ July 1, 2010 **(20100602-IR-312100347NRA)**. ~~The information bulletin was approved by theCommission during a meeting held on May 18, 2010.~~ **On xx, 2021, the Commission approved**

this First Amendment updating URL links and making other technical amendments.

NATURAL RESOURCES COMMISSION

Information Bulletin #71 (First Amendment)
~~April 1, 2012~~

SUBJECT: Bioengineered Materials and Techniques for Public Freshwater Lakes, Rivers, and Streams

I. Background

Landowners along public freshwater lakes often wish to employ shoreline protection. If a new seawall is to be placed in a significant wetland or along a natural shoreline, the seawall must be constructed of bioengineered materials pursuant to 312 IAC 11-4-2. In addition to these areas, bioengineered materials may be placed elsewhere along lake shorelines and can be especially useful along areas of special concern. "Bioengineered" is defined at 312 IAC 11-2-3 as "the use of a combination of biological elements (plant materials) and structural or mechanical reinforcements for stabilization, revetment, or erosion control. Biological and mechanical elements must function together in an integrated and complementary manner." The primary purpose of the information bulletin is to provide guidance for techniques to place and maintain bioengineered materials for shoreline protection in public freshwater lakes. Native plants must be used for the materials and techniques to be approved by the department. Care should be taken to ensure that non-native, invasive species are not included in purchased materials. Though not explicitly required by administrative rule, bioengineered materials can also be helpful to use in floodways on eroding banks of rivers and streams.

Bioengineering integrates live plant materials with structural support to create a living system capable of stabilizing shorelines or stream banks and providing erosion, sediment, and flood control. The integration and maintenance of the biological component is the critical feature of any bioengineered feature. Live plant materials provide additional benefits of landscape restoration and improved wildlife habitat.

The benefits of using bioengineering materials greatly outweigh those of traditional hard armor systems in many situations. Bioengineered areas can enhance the natural scenic beauty of the landscape and can improve fish and wildlife habitat. Traditional bank protection techniques require the use of heavy machinery that can cause

detrimental impacts to sensitive areas, particularly increased erosion. In contrast, many bioengineered materials can be installed by hand or with smaller equipment. This advantage may be critical in steep areas where it is not possible to use heavy equipment. By reducing or eliminating the use of heavy machinery, lower project costs can result. In addition, most installation work with bioengineered materials can be done in the dormant season of late fall, winter, and early spring.

The greatest benefit of using bioengineering materials is long-term stability. Traditional erosion control systems are efficient for a period of time but often need to be replaced or repaired. With bioengineering, the plant systems can be established by the time the mechanical components begin to breakdown. As the system matures, the plants grow and their root systems bind the soil and any structural components. The plant systems can stabilize a bank long after the mechanical elements breakdown without the added cost of replacement.

The following information discusses common systems for the use of bioengineered materials to provide shoreline or stream bank protection. Not all systems are suitable for use at every site. For instance, bioengineered systems requiring woody plant growth need ample sunlight. A site must be properly assessed before choosing what is suitable to site conditions. Sites that are not experiencing erosion do not necessarily need any protection and can be left alone without assistance.

II. Types of Bioengineered Protection

A. Coconut Fiber Roll

Coconut fiber rolls, more commonly known as "coir logs", are cylindrical, log-like structures typically manufactured from coconut fiber wrapped with netting. Coir logs provide toe protection and protect slopes from undermining where scour is not severe. The log saturates with water soon after installation and can be planted with rooted plant stock of native species. The vegetation will be established when the log starts to disintegrate in a few years, leaving the bank protected (SMRC 2000).

Coir logs are one of the most commonly used erosion control products and can be used along streambanks, lakeshores, and wetlands. The logs fit into the curvature of the bank, providing maximum stability when properly installed. They are highly effective in lakeshore habitats with fluctuating levels because they encourage new vegetation in harsh conditions (USDA 1998).

Coir logs are typically twelve inches in diameter and can range in length from ten to 20 feet. In addition, coconut fiber mats can be purchased and then rolled into logs. Coir logs typically last around six to ten years (USDA 1998), depending on the manufacturer and specific log qualities.

Coir logs are relatively lightweight and can be installed by hand, though once waterlogged they become quite heavy. The use of live and dead stakes within the log helps secure them to the toe of the slope. Since installation requires little site disturbance, further erosion and sedimentation are prevented while adding toe protection. After vegetation has grown, the logs are barely visible and provide a natural-looking habitat. The rolls also trap sediment and create conditions beneficial for the establishment of native vegetation (USDA 1997).

For installation, a coir roll should be placed so the top of the roll is visible at a level that will not be topped by wave action. Once the log is in position, dead stakes are placed every four feet to hold it in place. If a significant amount of wave action or ice flow is possible, the log will need to be further secured by steel cable and duckbill anchors. Clean fill is placed behind the log. Rooted cuttings and plants can be placed in the installed log to further enhance the bank stability and improve aesthetics. To prevent washout, both ends of the log need to transition smoothly into the slope (Alaska Department of Fish and Game 2005).

B. Hard Armor

1. A-Jacks

A-jacks blend the benefits of hard armor and vegetation, forming a matrix of stone and vegetation. Each A-jack unit consists of two symmetrical concrete halves that interlock to form a product similar in shape to childhood jacks. A-jacks are assembled at the worksite and then installed in the toe of a slope. This requires trenching the toe of the slope, generally deep enough to bury the bottom row of A-jacks to their midsection. A geotextile is placed in the trench first, behind where the A-jacks will be, in order to avoid piping of soil from behind the A-jacks.

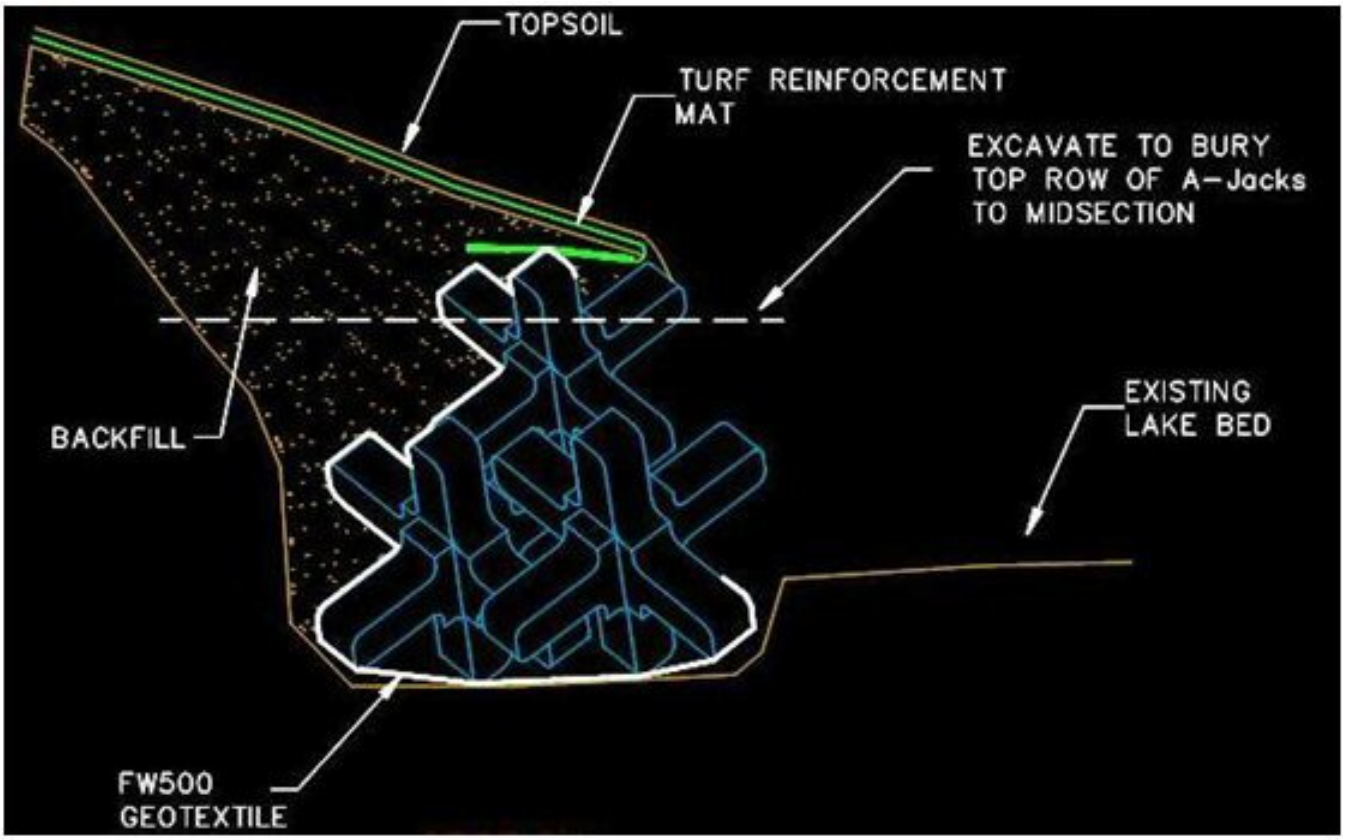
Some A-jacks can be installed by hand but larger units require sizeable machinery to install due to their weight.

Multiple rows of A-Jacks can be installed to form rows that interlock horizontally and vertically. When bare or sloped banks exist, means of sediment control must be in place during installation to prevent large sediment deposits from entering the water. After the A-jacks are in place, the sediment excavated prior to installation is used to backfill the rows and fill the voids. The area is then covered with topsoil and planted or seeded with native plants.

A-jacks can be used in almost any location to address erosion, shoreline stabilization, bridge scour, and toe stabilization. They are particularly effective in areas of high velocity flows.

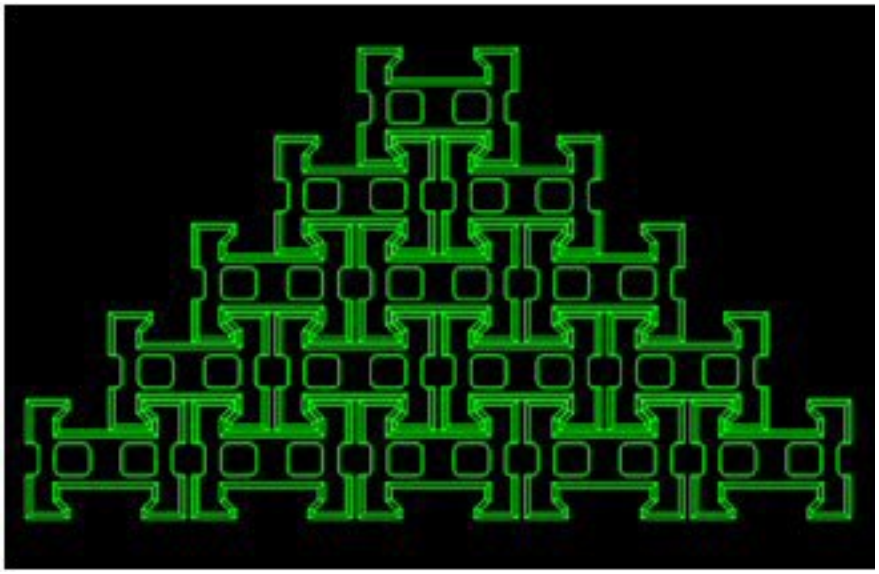
The greatest benefit to A-jacks is their overall mechanical strength while also being environmentally friendly. The voids allow native vegetation to become established and provide ideal aquatic habitat for many fish and invertebrates. Once vegetation has grown, most units are not visible. Also, they are an excellent alternative to riprap and usually require no regular maintenance (Murphy and Dreher 1996). Finally, they can be installed without disturbing the slope other than the toe (Wendt and Allen 2001).

The largest disadvantage of this system is finding an experienced contractor. Limited knowledge can lead to high labor costs, as it is more difficult and takes more time for the contractor to finish the job. While installation of the A-jacks is easy and can be done by hand, heavy machinery is usually needed to backfill the area and also to haul the units to the installation site. A backhoe with forks is needed to unload the pallets and the backhoe can also be used to lower the A-jacks to the installation site. Smaller equipment can be used to transport small numbers of A-jacks from a staging area to the installation site. This approach is particularly useful if working in tight quarters or if vegetation clearing would otherwise be needed to get the A-jacks to the site.



2. Concrete Blocks and Mats

Cellular concrete blocks form an interlocking system used to protect banks from erosion. Each block is uniform in size and weight and interlocks with other blocks to form a strong matrix. The flexibility allows for a variety of uses including shoreline protection. A layer of geotextile fabric on the underside of the matrix adds support to the system and improves drainage.

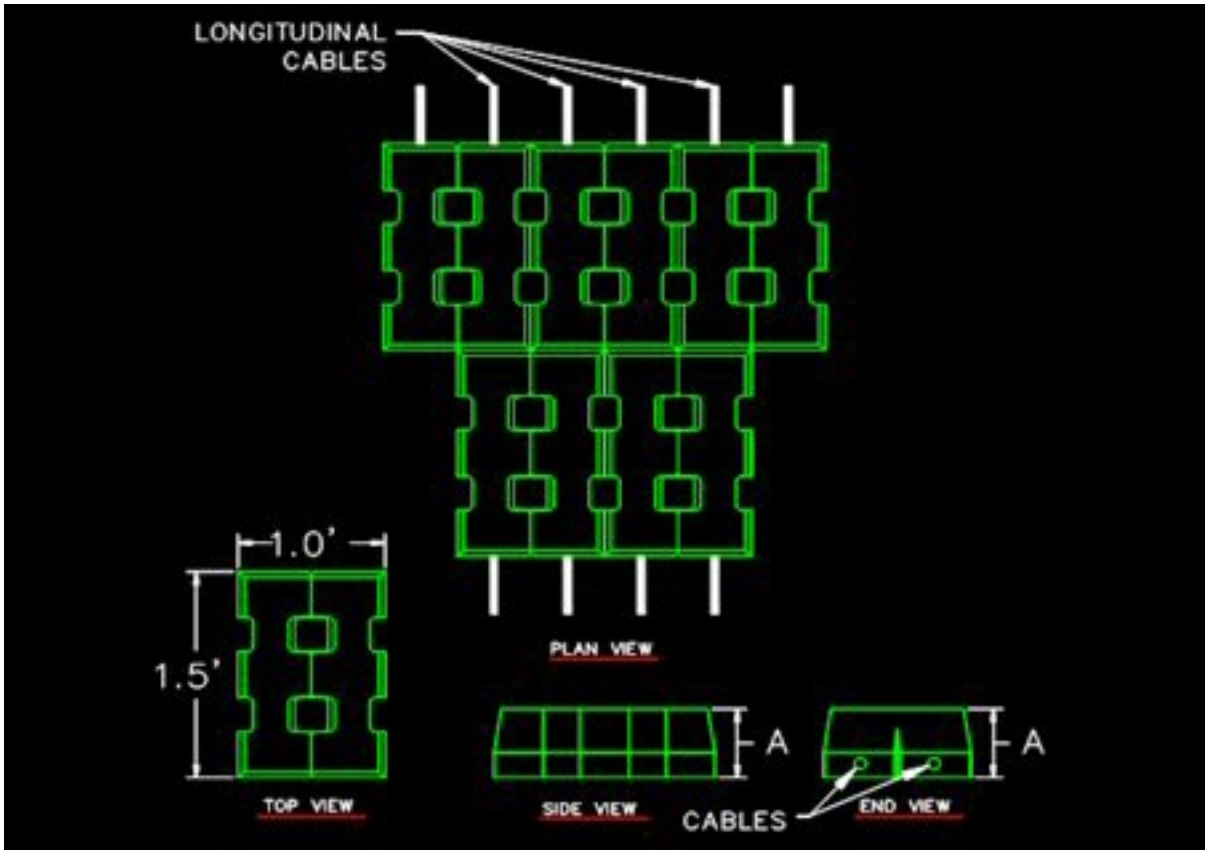


Cellular concrete blocks offer hard armor with voids to allow vegetation to become established, thereby providing wildlife habitat and an aesthetically pleasing condition. The blocks can be laid by hand which reduces additional site disturbance and allows their application in areas inaccessible to heavy machinery. The system provides a safe surface for pedestrians and wildlife.

Installation is best when done along evenly graded areas. Objects such as roots and stones should be removed and holes should be filled. Trenches are needed at the toe and the upper bank limit. Before the concrete blocks are laid, geotextile that is specific to the site needs to be placed. Blocks should be laid and interlocked starting at the bottom of the slope and continue until the desired protection has been achieved. Open cells are filled with sand, gravel, or soil, and the area is then seeded.

Articulated concrete mats use an interlocking concrete block matrix that is connected using a series of cables which forms a flexible structure. Similar to concrete blocks, a layer of geotextile fabric is first laid to add support to the system. This system provides the stability of hard armor, flexibility of erosion control mats, and the aesthetic, environmentally friendly aspect of other bioengineering techniques. The porosity of the system allows vegetation to grow. Banks are immediately protected upon installation. Articulated concrete mats are an economical alternative to riprap or other hard armor applications. The system is designed to be permanent and to minimize maintenance costs after installation.

Installation of articulated concrete mats is fairly simple but usually requires the use of a crane which could add to site disturbance. Cellular concrete blocks are laid by hand. A layer of geotextile should be placed on the installation site before placing either material and must be suitable for site conditions. Articulated concrete mats arrive onsite as a manufactured system. Mats are placed side by side and can be anchored with duckbill anchors for added stability. Above the ordinary high-water line, the mats can be backfilled and seeded after installation to promote quicker vegetative growth. Mats are buried two blocks deep into the soil for toe protection (USDA 1996). To be effective and considered a bioengineered material, vegetation must be incorporated into the blocks or mats.



C. Joint Planting

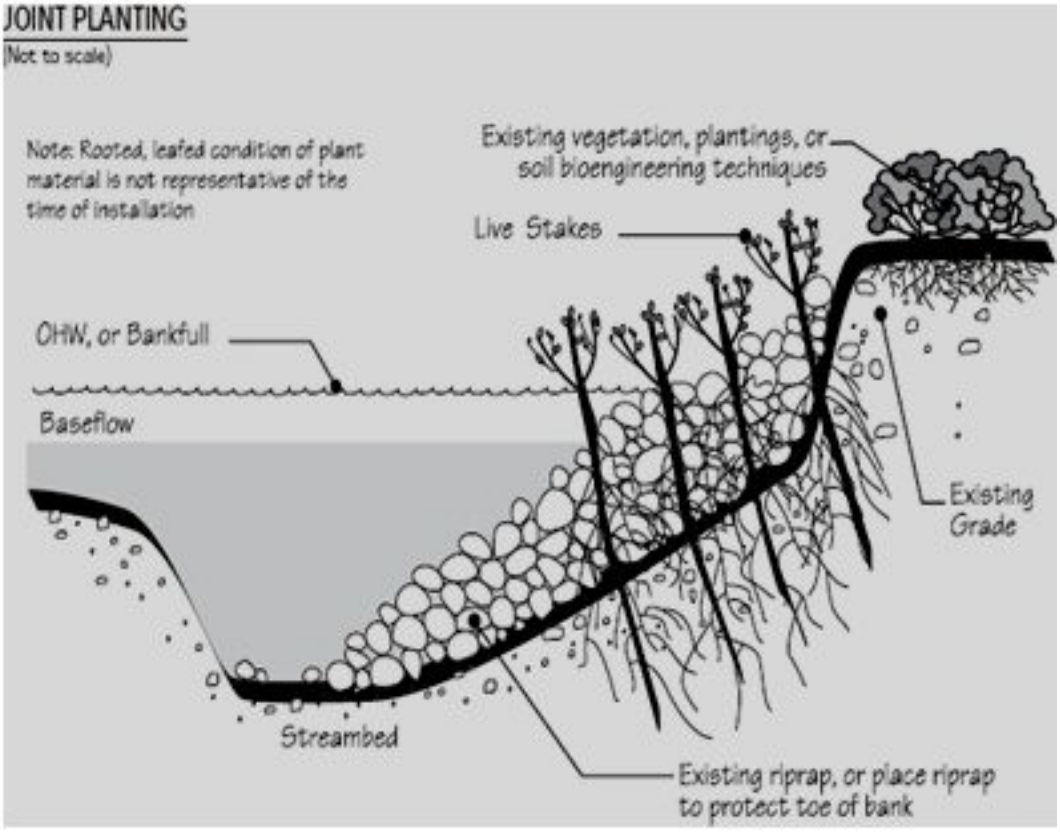
Joint plantings involve the use of live stakes with rock, such as riprap or glacial stone. The stakes are tamped down into the spaces between the rock where they will eventually root and sprout (USDA 1998). Once established, the vegetation creates a root mat under the rock that aids in erosion control. The plantings bind soil and rock together and help dry out the bank soil. This technique can be a relatively permanent resolution to recurring erosion from high velocity flows and is a common design for bioengineered seawalls along lake shorelines.

Once the stakes become established, they give the area a more natural look by covering some of the rock. As the system ages, sediment deposits occur, which provides additional area for plant establishment. Joint planting provides habitat where little to none would exist with riprap alone. Established plantings also improve water quality by creating shade over the water, resulting in cooler water temperatures.

Joint plantings also have engineering benefits. Rock alone dissipates much of the energy from high velocity flows created by flood stage events. Once vegetation is established, the plants further dissipate energy from the water. A system becomes stronger with maturation. (USDA 2000). With the system absorbing much of the energy that would otherwise cause erosion, bank protection increases substantially.

Joint planting can be done if rock is already in place (State of Georgia 2000). Not all riprap is conducive to planting, however. For instance, older riprap with a compacted base may prove difficult to penetrate. Finally, joint plantings can help deter vandalism. Established vegetation reduces visibility of the rock and the integration of roots and rocks make it difficult to move any stones. Once in place, the system requires little upkeep.

Installation is relatively simple, although heavy machinery may be required to install the riprap. Riprap needs to be loosely dumped or hand placed and no thicker than two to three feet. Hand laying the rock is best, but not always feasible (State of Georgia 2000). Once rocks are in place, stakes can be tamped into the voids between them. If hand laying, stakes can be placed in conjunction with the riprap. The growing ends of the stakes need to protrude slightly above the rock and be long enough to extend into the dry season water level. The stakes can be placed in a random arrangement although a diamond or grid pattern with stakes spaced three feet apart is common.



The survival rate of live stakes typically varies from 30% to 50% (USDA 2002). The low survival rate may be attributed to dry soil or shallow plant installations. Survival rates can be enhanced through irrigation (especially during the first year) or compensated by a high number of plantings. Also, plants take at least a year to become established, and success is restricted to species capable of growing in this type of environment. The use of live stakes limits the time of year the system can be used, as stakes need to be installed when they are dormant.

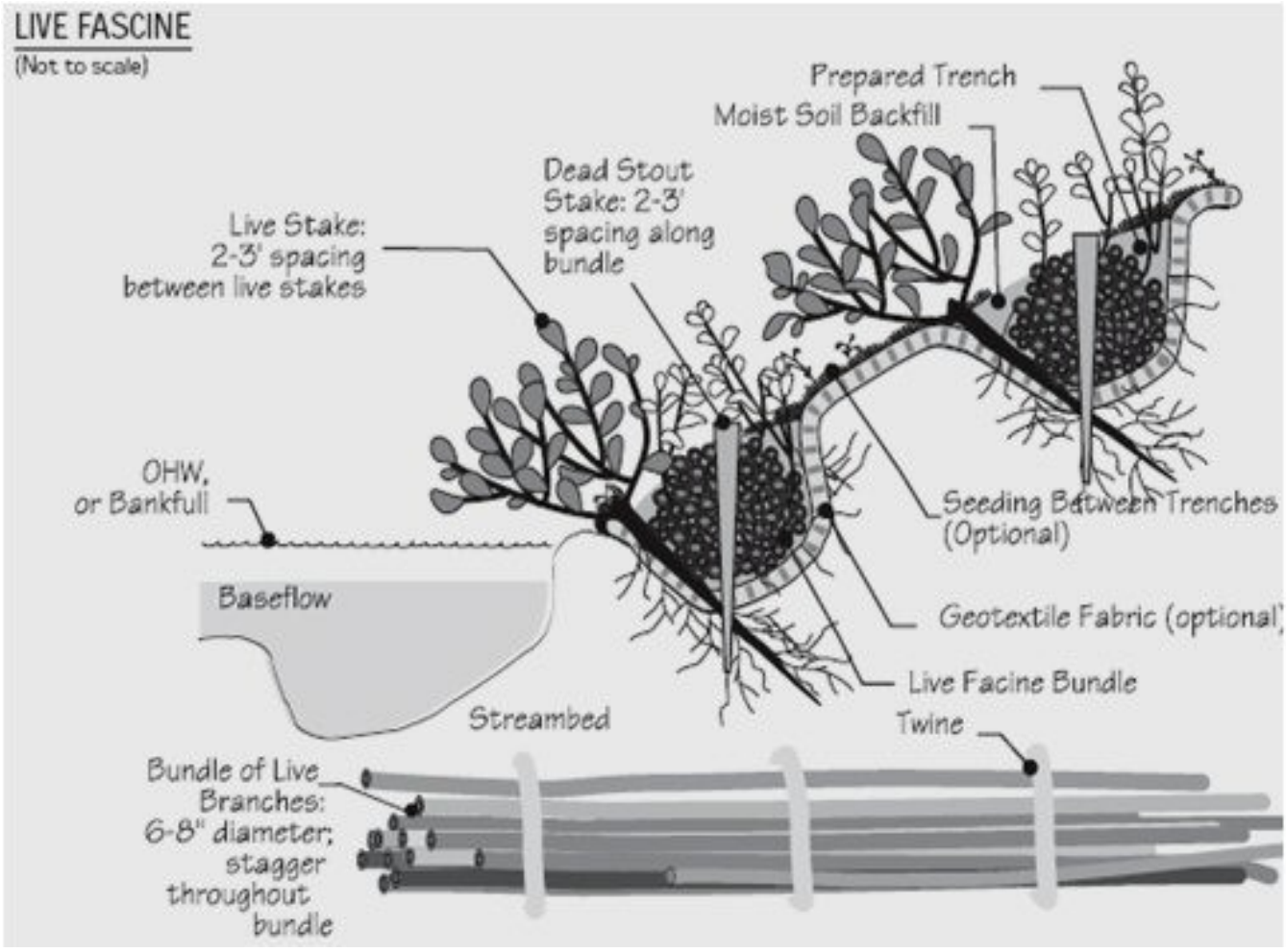
D. Live Fascines

Live fascines are long plant bundles placed into trenches in a stream bank, parallel to stream flow. Species in these bundles are similar to those used in live stakes and eventually develop a root system that protects the soil from erosion (State of Georgia 2000). The branch cuttings are tied together with twine in a cylindrical fashion. Once placed in the trench, fascines trap and collect soil on the streambank.

Advantages of this technique include immediate reduction of surface erosion as the bundles and trenches collect runoff before sprouting has occurred. Also, if properly installed, site disturbance can be kept to a minimum. The increased stability provided from this technique allows additional native vegetation to become established which enhances erosion control while the fascines take root. If installed at a sufficient angle, the bundles aid in drainage which also provides added soil stability. This technique requires plenty of moisture during the growing season.

For added stability, live fascines are often used with other bioengineering techniques. Live stakes help stabilize the fascine and provide additional woody vegetation. Dead stout stakes made from untreated lumber also hold the fascines in place to prevent washout. Seeding between each trench aids in site stabilization. To prevent erosion of loose soils while a fascine is rooting, geotextile fabric can be used along the bank and under each fascine.

Similar to live stakes, fascines need to be collected and prepared as soon as possible to the time of installation. A site where the woody materials are readily available is best. For dry slopes, a shallow contour trench parallel to flow is necessary. On wet slopes, the trenches need to be placed at an angle to prevent sliding. The trench is dug at the proper contour ten inches deep and ten inches wide and is placed up the slope three to five feet apart. The trenches should extend one or two rows over the top of the bank.



First, place a geotextile along the banks and in the trenches. Next, starting at the trench closest to the toe of the slope, place the fascines into the trench, using soil from the next trench to lightly cover the bundle. The top of the bundle should be somewhat visible after backfilling. Dead stakes are installed directly though the fascine, and live stakes are placed on the down slope side of the bundle (USDA 2002). Finally, the area between each fascine is seeded to prevent erosion during establishment.

E. Live Siltation

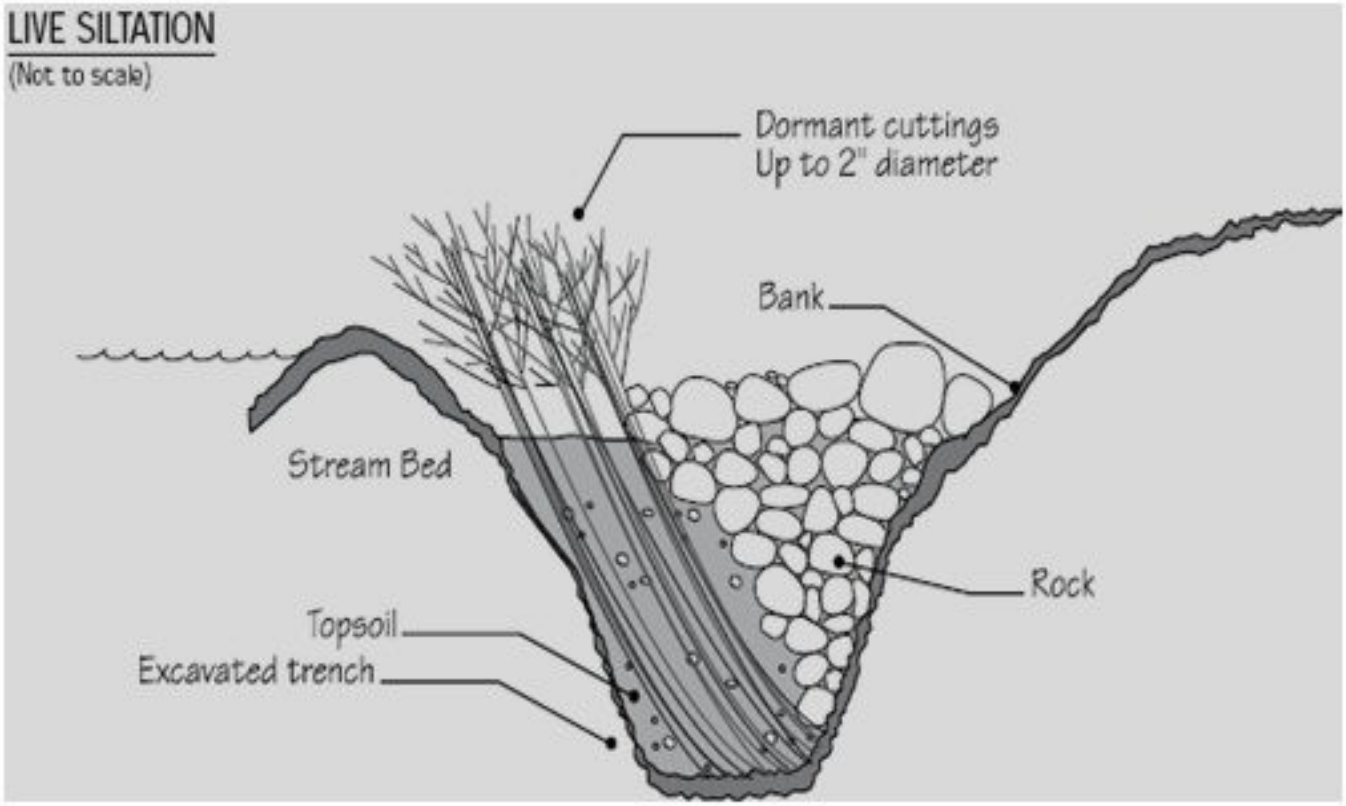
Live siltation is a two-fold system for the placement of bioengineered materials. Live siltation secures the toe of the slope and collects sediment to create aquatic habitat (Hoyer 2002). The system revegetates the toe of the slope and provides armor for additional protection. A trench is dug to help collect sediment. A layer of gravel, small rock, and soil are placed in the bottom to hold cuttings in place until they are established (USDA 2002). Both live and dead branch cuttings are placed in the trench, adding immediate stability. Fish cover and habitat are also immediately enhanced. The system encourages deposition of sediment into the trench; the sediment is trapped by the branches and leaves of the cuttings.

Live siltation can be used on streams and lake shores in battling erosion from wind and waves. Usually installed on inner bends, the technique can be modified for outer bends with additional scour and toe protection. As with other techniques that use live cuttings, species that easily root must be used, but any woody branches are acceptable for dead cuttings. The live and dead branches supply a roughness element, slowing the water velocity and promoting sedimentation (Hoyer 2002).

Many advantages are presented with live siltation. The largest of these is habitat improvement and restoration. Fish habitat is immediately present upon installation, and the addition of riparian habitat enhances the area for other wildlife as well. Sedimentation and bank stabilization provide areas favorable for establishment of native vegetation. The roots of the cuttings help to stabilize and dry out the soil. The roots also add resistance to sliding and shear displacement. When plantings are being used on the bank, this technique helps protect the rooted stock by acting as a barrier (USDA 2002). Live siltation is often used in addition to other methods.

Installation can only occur in areas with shallow water and slope, or the trench will be ineffective. Also, the installation site must be in an area of low velocity flow to prevent washout. The trench needs to be placed properly (Hoyer 2002) above the ordinary high-water mark. Installation season is limited due to the use of dormant cuttings.

The system should be installed perpendicular to wind and waves and follow the contour of the bank (USDA 1998). The trench can be dug by hand or backhoe and should be two feet deep. A minimum of 40 branches per yard are placed, bud ends up, in the trench leaning towards the stream. One-third of each branch is exposed. Soil is added, as well as gravel and small rock. Topping the trench with large rocks assists in preventing washout. Other bioengineered materials such as coconut fiber logs or fascines can also be used with the larger rocks (USDA 2002).



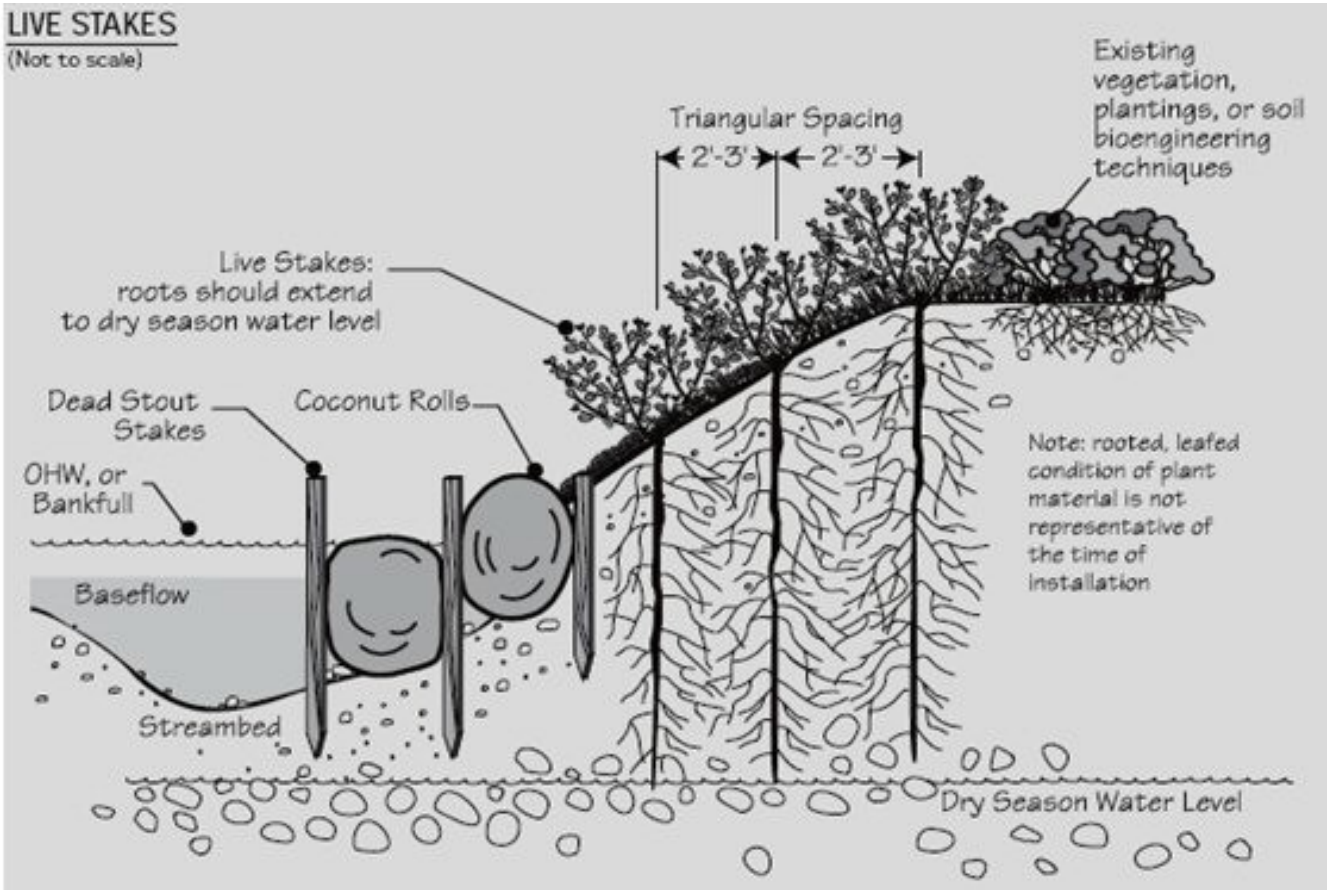
F. Live Stakes

Bioengineering through the use of live stakes involves the planting of dormant cuttings from plant species known to root quickly and effectively (State of Georgia 2000). These stakes, absent of twigs or leaves, are tamped directly into the streambank soil (USDA 2002). Soil stabilization occurs as the roots bind the soil and draw moisture from the soil. Vegetation also increases and enhances streamside habitat for aquatic and terrestrial species.

Live stakes are best used in an area where moist soil will be available throughout the growing season. Stakes must be used soon after cutting to ensure proper root development and overall survival and growth. During transport from the collection site to the installation area, the cut stakes need to be kept in a cool, moist environment. A construction location where the stakes are able to be cut onsite is ideal.

Live stakes are often used to save time and money on a site that only needs minor erosion control. Installation is rather simple. Stakes range from one to two inches in diameter and two to three feet long, with length dependent on the dry season water level and the cutting source. Various dogwood and willow species are the most commonly used plants for live stakes. Only species native to the area are to be used. These species not only root quickly, but also provide a strong root system to effectively stabilize the soil. All leaves and branches need to be removed before installation, but bark should be left intact to assist the stake in moisture retention. Cutting the basal end at a sharp angle and leaving the top of the branch square aids installation. Stakes are tamped using a dead blow hammer with the buds facing up, inserting the live stake 4/5 of the way into the ground at a slightly

downstream angle. Spacing should be a triangular pattern with stakes two to three feet apart. If the soil is tightly packed, the stake can be inserted by digging a hole rather than tamping, as compacted soil can cause the stake to split and become ineffective. Covering an area with jute mesh or geotextile fabric aids stability until roots are established.



Live stakes can be installed in conjunction with other bioengineering materials, such as geotextile fabric, coconut fiber logs, and live fascines. If a streambank is exceptionally prone to erosion, laying geotextile with the live stakes helps control erosion while the live stakes take root. Live posts are quite similar to live stakes, only live posts are much larger (USDA 2002).

G. Rolled Erosion Control Products (RECPs)

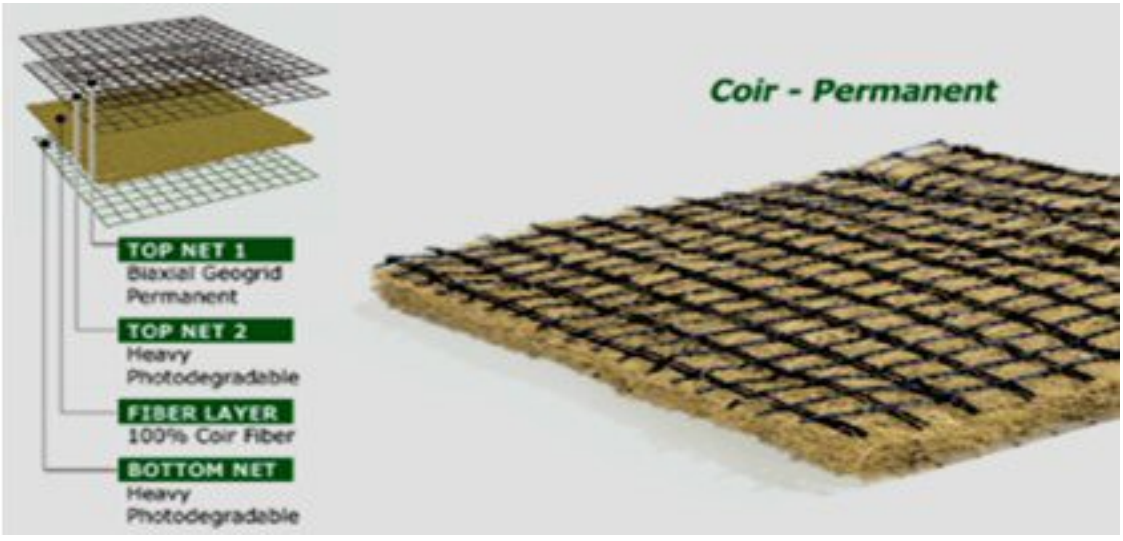
Rolled erosion control products (RECPs) include turf reinforcement mats (TRMs), erosion control blankets (ECBs), and similar geotextiles manufactured to provide bank stabilization and prevent erosion. Generally, they are blankets of organic mulch distributed between fiber netting that is a photodegradable polypropylene, a biodegradable natural fiber netting, or a more permanent material such as polyethylene or polyvinyl chloride that has ultra violet stabilizers. Organic mulch includes straw, excelsior, coconut fiber, or any combination of these. Before installation, the site should be evaluated to determine the best RECP for the situation.

Rolled erosion control products provide numerous benefits: immediate bank protection and stabilization; protection of vegetation as it becomes established; providing a stable microclimate for enhanced growth; and increased soil infiltration which promotes improved drainage and vegetation growth. These materials are often used in conjunction with other bioengineered materials such as A-jacks and live fascines.

Rolled erosion control products can be used on a variety of sites. In many areas, slopes are too steep for a simple hydroseeding method to be effective. The use of an RECP in such areas provides a method to anchor the mulch to the soil to reduce runoff and help vegetation establishment. These mats and blankets prove most effective on slopes steeper than 3:1 and where the threat of erosion is high.

In most cases, seeding should occur before the installment of an RECP. Follow manufacturer directions for installation. Installation of the material includes a six inch by six inch trench at the top of the slope to anchor the mat. After backfilling and tamping the trench, the mat is unrolled down the slope to the water line. A trench is also required at the toe of the slope in order to prevent water from getting under the material. When laying the next roll, there should be two to three inches of overlap, with the blanket on the upstream side on top. The blankets need to be laid loosely but remain in complete contact with the soil and secured following manufacturer specifications.

Geotextiles are a type of RECP that do not contain the layers of materials found in ECBs and TRMs but still allow water infiltration and erosion control. They provide excellent erosion control and are commonly used in conjunction with other techniques, like joint planting, A-jacks, and vegetated geogrids.

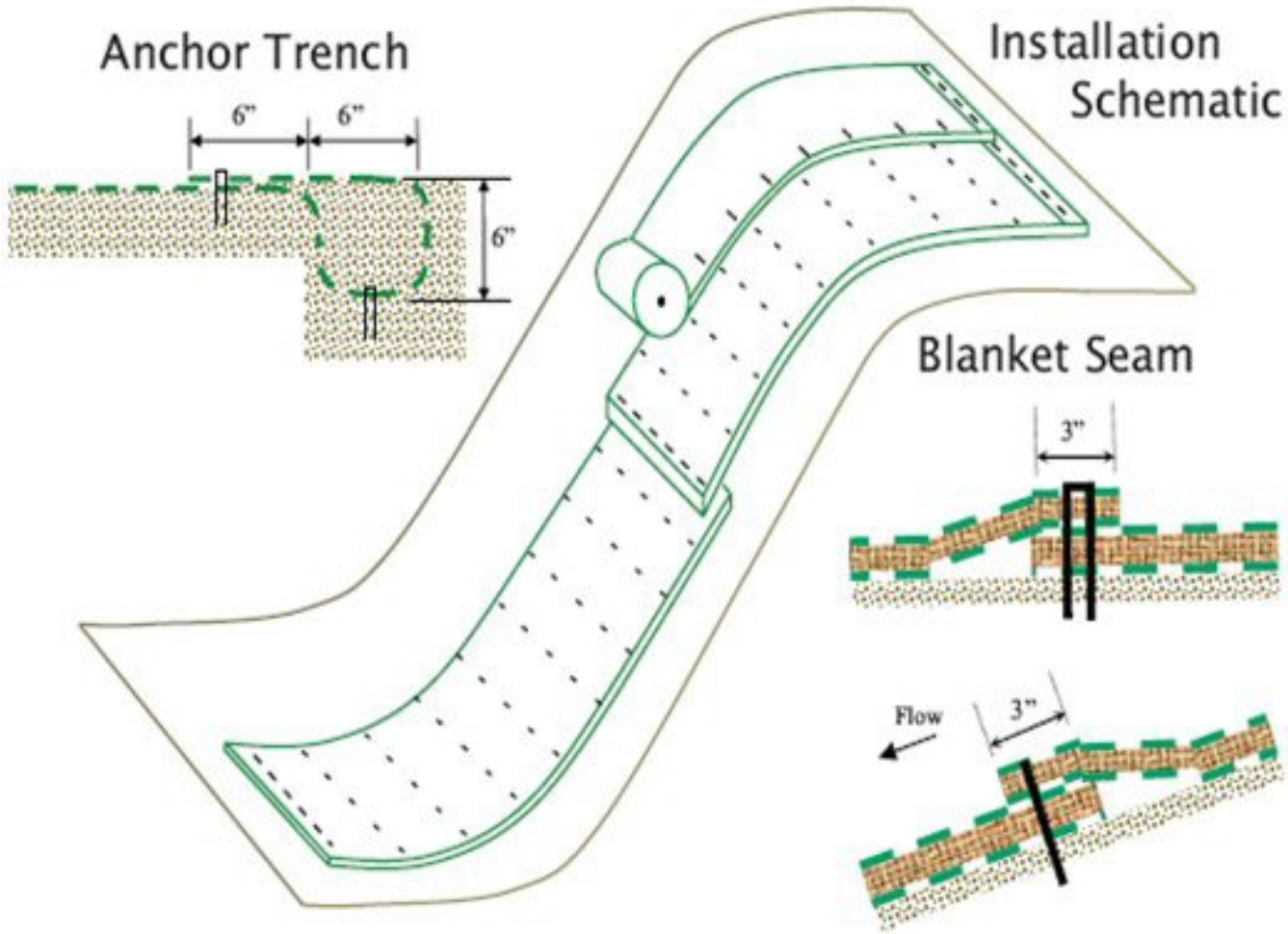


Turf reinforcement mats (TRMs) are manufactured coverings used to provide bank stabilization and prevent erosion. Generally, they are blankets of organic mulch distributed between fiber netting. The netting can be photodegradable polypropylene, a biodegradable natural fiber netting, or a more permanent material such as

polyethylene or polyvinyl chloride that has ultra violet stabilizers. Organic mulch includes straw, excelsior, coconut fiber, or any combination of these. Before installation, a site must be evaluated to assess the amount of protection needed and to ensure the correct mat is used.

Turf reinforcement mats provide immediate bank protection and stabilization. They reinforce the root system of the vegetation on the bank while providing a stable microclimate for enhanced growth. TRMs protect banks from rainfall impact which can lead to surface erosion. The mats can increase infiltration and therefore promote vegetative growth by improving drainage. TRMs protect seedlings from birds and other animals and are often used in conjunction with other bioengineering techniques such as A-jacks and live fascines.

Turf reinforcement mats can be used on a variety of sites. In many areas, slopes are too steep for simple hydroseeding to be effective. The use of a TRM provides a method to anchor the mulch to the soil to reduce runoff and help vegetation establishment. These mats are most effective on slopes steeper than 3:1 and where the threat of erosion is high. The mats are also effective in areas where the soils are already disturbed and vegetative growth may be slow.



Typically, seeding should occur before the installment of the turf reinforcement mat. At the top of the slope, a six inch by six inch trench is needed to anchor the mat. After backfilling and tamping the trench, the mat is unrolled down the slope to the water line. When laying the next roll, there should be two to three inches of overlap, with the TRM on the upstream side on top. The blankets need to be laid loosely but remain in complete contact with the soil and secured following manufacturer specifications.

H. Root Wads

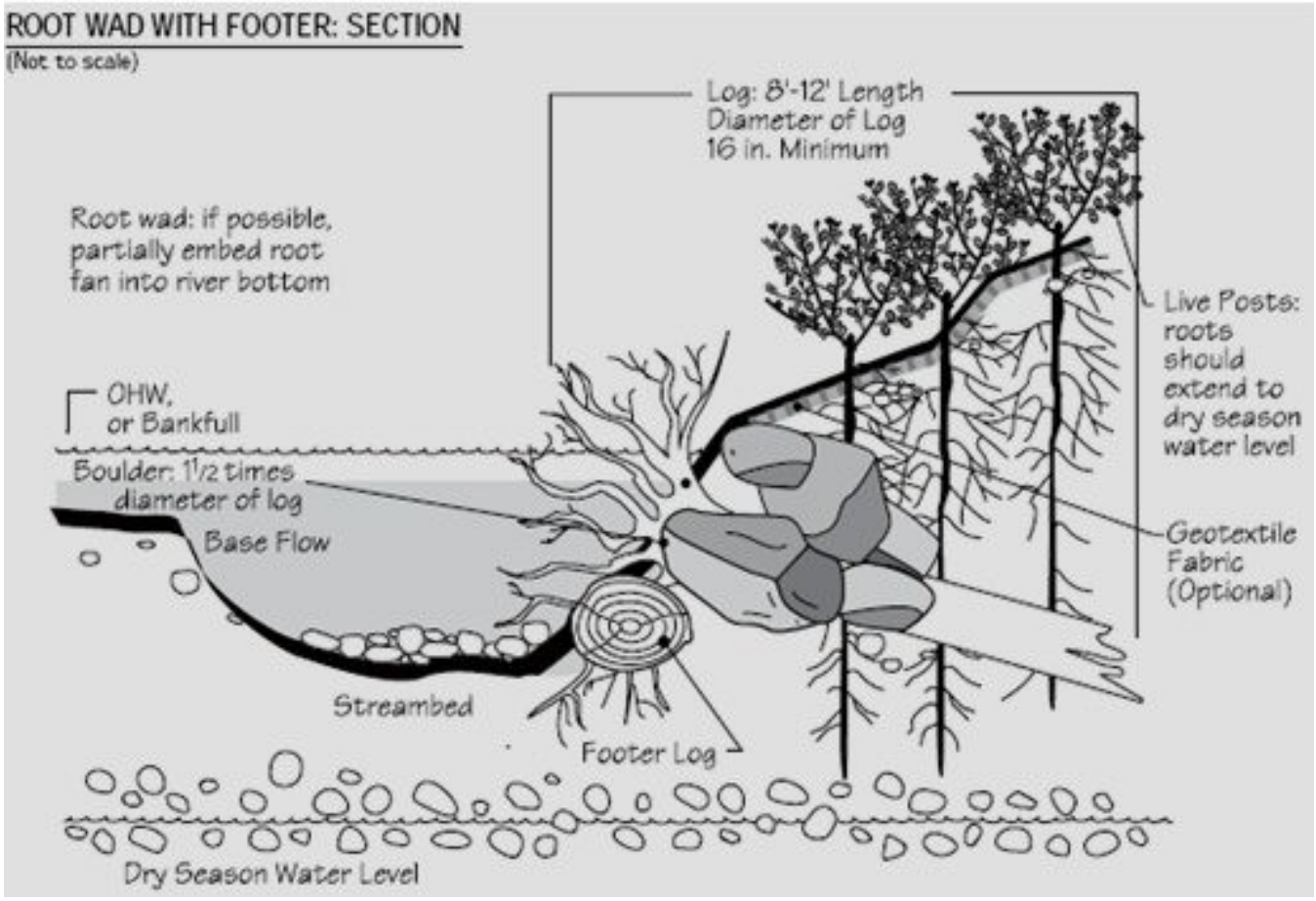
Another bioengineered material is a large root wad of a tree placed in the bank to protect the slope toe. Root wads should only be used in conjunction with other bioengineered materials for bank stabilization (Harman and Smith 2002). The root wad displaces the current away from the bank, which slows the rate of erosion. In addition, sediment collects behind the wad and helps restore the bank.

Root wads can be used on streams and lakes, but only certain species of trees are acceptable for use. Douglas fir, oak, hard maple, juniper, spruce, cedar, red pine, white pine, larch, or beech all have durable wood that can withstand high velocity flows; native species must be used.

With proper placement, root wads provide immediate protection following installation. They must be installed at the toe of the slope for protection and restoration. For highest efficiency, install wads where the primary flow vectors intersect the bank at acute or right angles, as this is often where the highest rates of erosion occur. Root wads can be placed in meandering streams (Harman and Smith 2002). On bends, overlapping of root wads is not necessary along the entire bend.

Root wads offer excellent habitat for insects and fish, as they provide overhead cover, resting areas, and shelter. This enhanced habitat improves fish spawning and rearing habitats; wads are often used in streams with fish habitat deficiencies in hopes of assisting in habitat and species recovery (USDA 2002).

To begin installation, a twelve (12) to 18 foot long footer log is placed at the toe of the eroding bank. Placement is at the expected scour depth, slightly angled away from the direction of flow. Boulders placed along the footer log help to hold it in place. Root wads need to be installed so the primary brace roots are facing upstream, flush with the bank at a 30% to 45% angle to the bank. The wads are either driven or trenched into this position and must be perpendicular to any waves. Once installed, the wad should be below the ordinary high-water mark. The area is then backfilled and live stakes or posts can be installed on the bank (USDA 2002).



Most root wads are quite large and require heavy machinery for installation, which can cause increased stream sedimentation (Alaska Department of Fish and Game 2005). Use is also site limited. If undercutting is likely, root wads should not be used. Also, they cannot be used in braided streams or with sandy or silty soil. Regular monitoring is required since they can decay or become damaged (MDE 2000).

I. Vegetated Geogrids

A vegetated geogrid (including a "soil lift", "fabric encapsulated soil" or "live soft gabion") consists of alternating layers of live cuttings and compacted soil wrapped in a geotextile (MassDEP 2006). The bioengineered material is

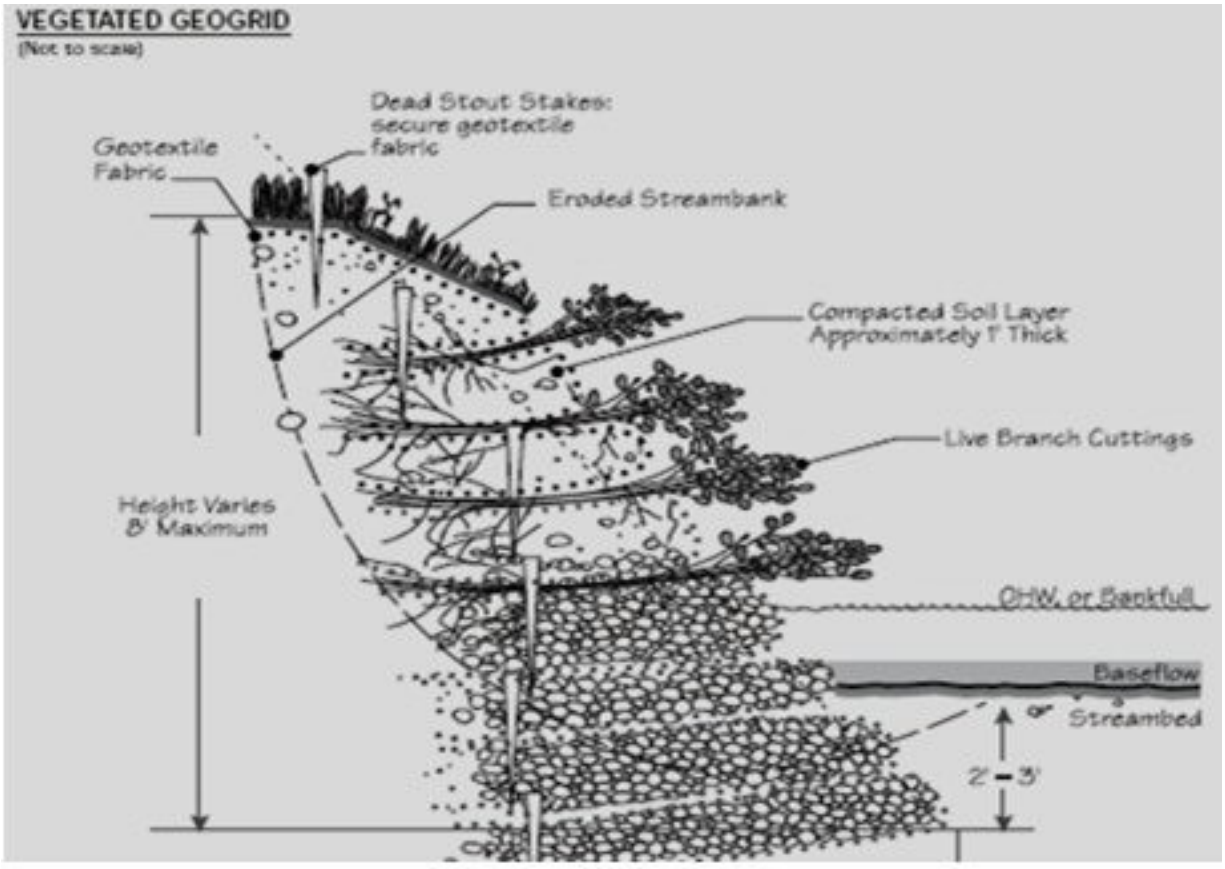
used if needed to rebuild a bank (USDA 2002), especially along steeply eroded streambanks or if needed to configure new banks in a realignment situation (USDA 1998). Vegetated geogrids are also helpful in restoring outside bends (MassDEP 2006).

Vegetated geogrids are immediately effective because the lifts protect the bank before the vegetation is established. Once the cuttings have established, the entire system increases in strength and becomes even more effective. The geogrids themselves trap sediment which helps to restore the bank, as well as improve water quality.

The use of vegetated geogrids is very similar to branch packing. Their applications and effectiveness are similar, as are the necessary materials. Both involve soil, live stakes, dead stakes, and toe protection and are installed similarly. The main difference is the use of geotextile with the vegetated geogrid. Also, vegetated geogrids can tolerate higher velocity flows and can be used on steeper, higher slopes than branch layering (MassDEP 2006).

Installation should be limited to streambanks or lakeshores with a 1:1 slope and can used above and below the ordinary high-water mark. A rock toe protection needs to be installed first by digging a trench that is two to three feet below the streambed and should be three to four feet wide. Next, a layer of biodegradable erosion control fabric is laid in the bottom of the trench which is filled twelve inches deep with two to three inch diameter rocks. The fabric is folded over the rock and staked. Rock-filled geogrids should extend up to the ordinary high-water mark.

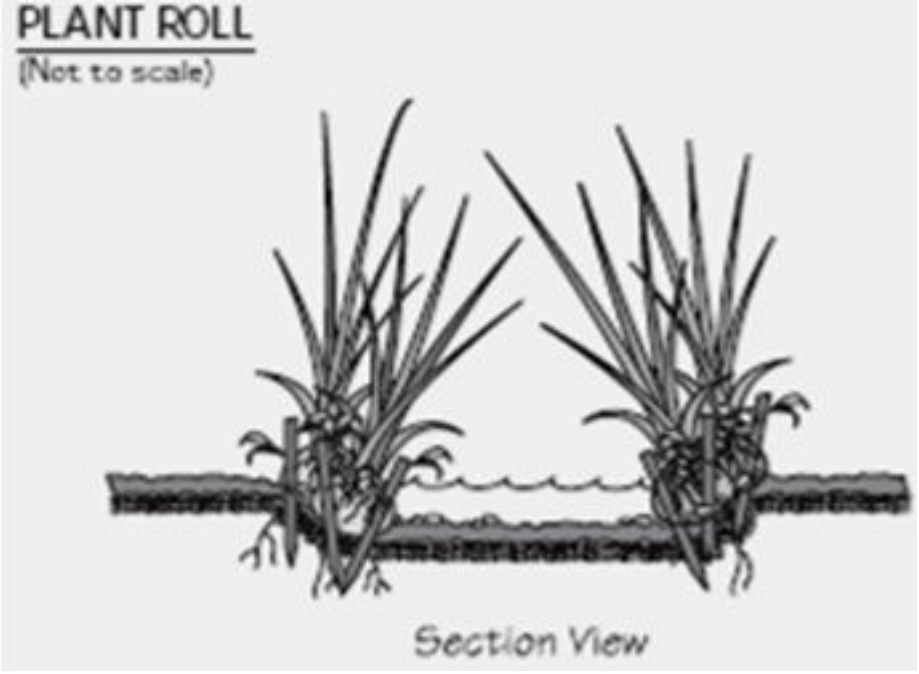
Along the top of the uppermost rock-filled geogrid, place a layer of branch cuttings (typically willow or dogwood). The branches should be covered with a layer of soil until most of the stems are covered. This is then covered with geotextile, creating a new lift staked together with live stakes. After each lift is installed, a new layer of cuttings is placed before a new lift is created. The total system height must not exceed eight feet (USDA 2002).



This highly effective system does have disadvantages. First, a large amount of materials is required. Geotextiles, live and dead stakes, and plantings need to be placed on the top of the slope as well as in each individual lift. Heavy equipment is also necessary to excavate a base trench and to backfill. The technique can be expensive in certain situations but the results are high quality and long lasting. Installation should be done during low flow conditions, as toe protection needs to be installed (USDA 2002). Dormant cuttings need to be available, which are limited to certain times of the year.

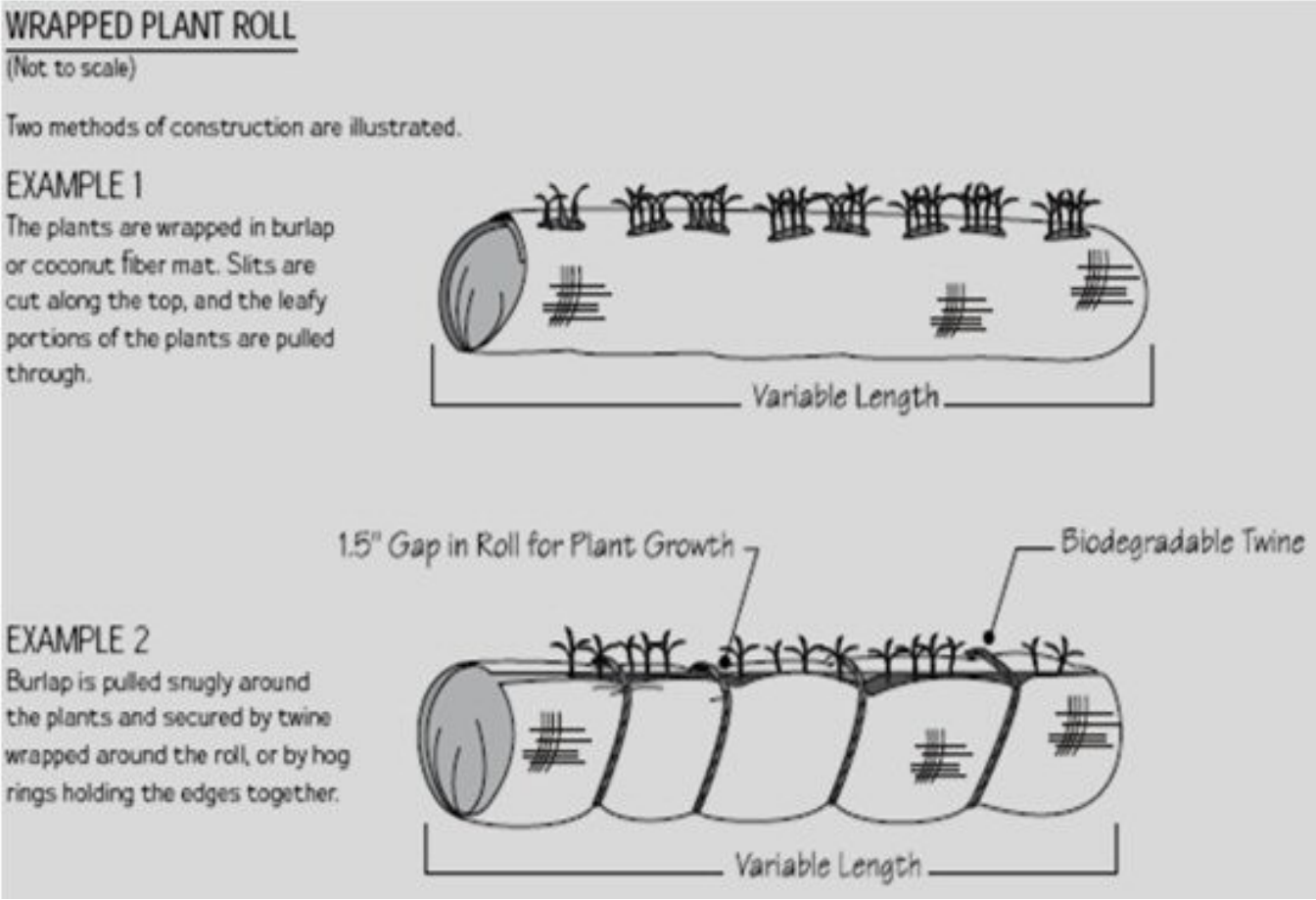
J. Wrapped Plant Rolls

Plant rolls introduce already established vegetation to eroded sites and can be constructed in a number of ways. Wrapped plant rolls consist of clumps of plants placed in sod and tightly wrapped into a sausage-like roll held together with twine and burlap, similar to a coir roll (USDA 2002). The rolls are usually about ten inches in diameter and can be two to 15 feet long. They are suitable for stream and lakeshore areas and are constructed directly onsite. Individual plants can be wrapped with burlap and twine to create individual plant bags. Plant rolls and bags can be used alone or in conjunction with other types of bioengineering techniques such as brush mattresses.



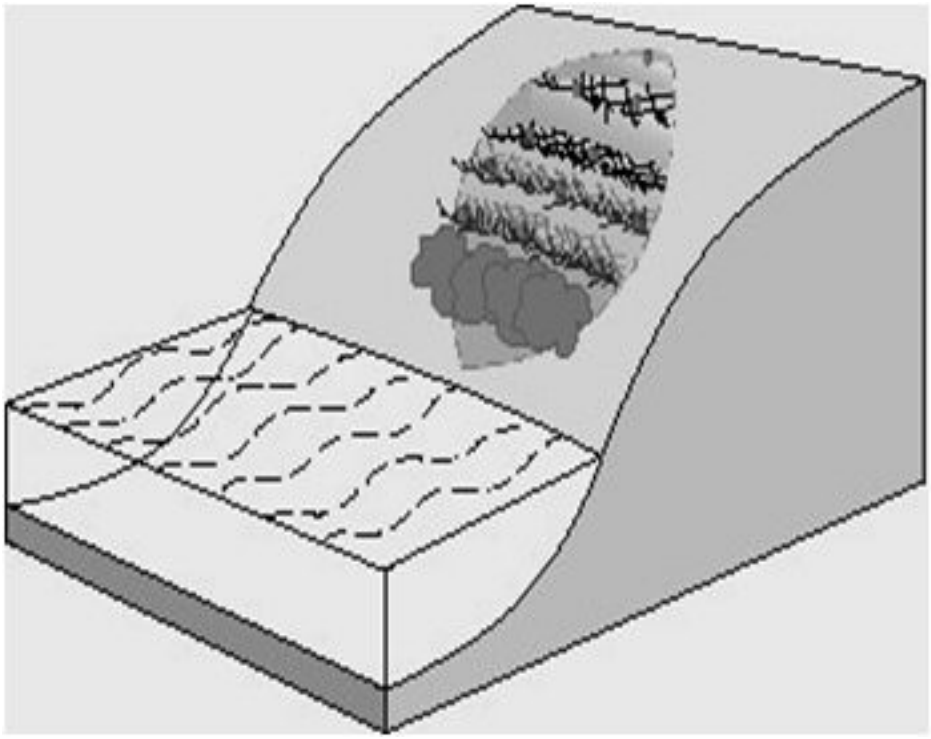
Ideal places for plant rolls are in areas where rapid repair of minor damage is needed. Many native species can grow in a plant roll, including many species of sedges, rushes, and grasses. Rolls are ideal where these types of plants normally grow. Unlike seeding, plant rolls can withstand areas of fluctuating water. Because rolls collect sediment and improve the microclimate, native species can easily become established and survive around a roll. Rolls offer immediate toe protection.

A trench two inches wider and deeper than the roll needs to be dug along the shoreline. Rolls can be constructed either in the trench or on the bank and then rolled into the trench. A two to three foot wide strip of geotextile is laid in the trench under a one inch layer of topsoil, with the roll placed on top of the geotextile. Plants should be placed twelve inches apart in the trench, and then covered and compacted with highly organic topsoil. To prevent washout, the ends need to be wrapped and tied with geotextile. The geotextile fabric is then wrapped from each side, overlapping at the top. To expose the plants, slits are cut in the top of the roll. Anchoring is done with dead stout stakes. For lakeshores, additional trenches should be dug three to six feet apart toward the shoreline in order to create a staggering spacing pattern (USDA 2002).



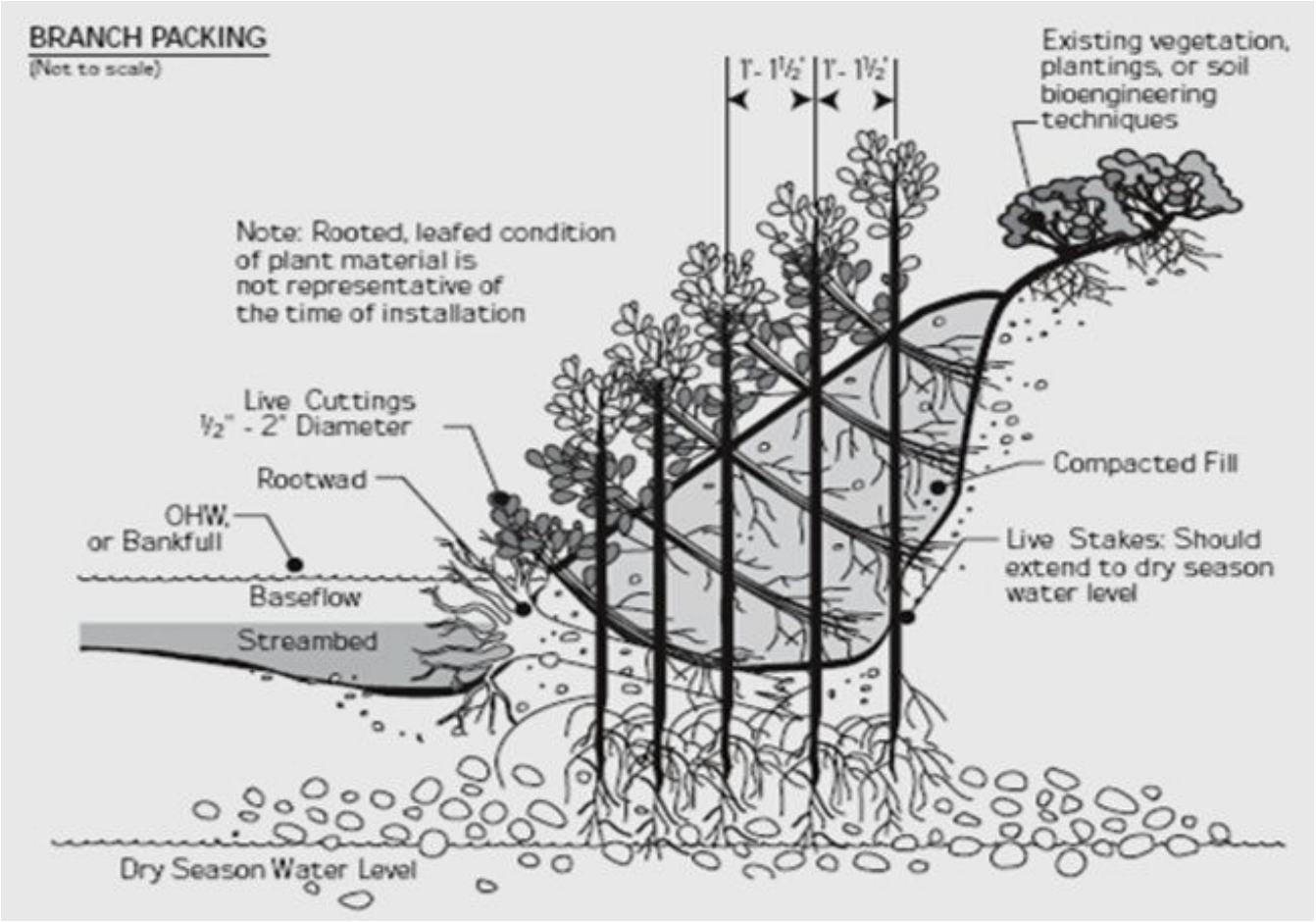
K. Branch Packing

Branch packing is a bioengineering technique consisting of alternating layers of live branches and compacted backfill. This system is an effective and relatively inexpensive way to fill small, localized holes and gullies. The bank gains immediate soil reinforcement from the branches and additional protection as the vegetation quickly becomes established. Existing holes should not be larger than two to four feet in width and four feet deep (USDA 2002).



Branch packing quickly establishes a vegetated bank to prevent runoff and contain erosion. The branches trap sediment while the roots stabilize and dry out the soil. As the vegetation grows, efficiency increases because plant leaves reduce soil runoff that can result from the impact of rain.

The bottom of the hole is dug out at or below the streambed. A layer of rock or a root wad should be placed at the bottom of the hole and covered with two to four inches of soil. Live stakes are placed three to four feet in the ground starting at the lowest part of the hole. Live branches are placed perpendicular to the slope face in the hole in a crisscross configuration, following each layer of branches with a layer of compacted soil (USDA 2002).



L. Brush Layering

Brush layering uses both soil and layers of cuttings to stabilize and revegetate streambanks. Cuttings are laid on horizontal benches of the slope, which can be the existing slope or one modified with fill. The technique is very similar to vegetated geogrids without the use of geotextiles. As with vegetated geogrids, plantings cut the bank into shorter sections with a brush layer in between to contain runoff. The cuttings can be dormant or rooted. A much larger species list can be utilized when rooted stock is used, as species that do not readily root can be inserted into the bank (Alaska Department of Fish and Game 2005). A higher density of plantings is needed for areas with a high flow velocity (USDA 2002).

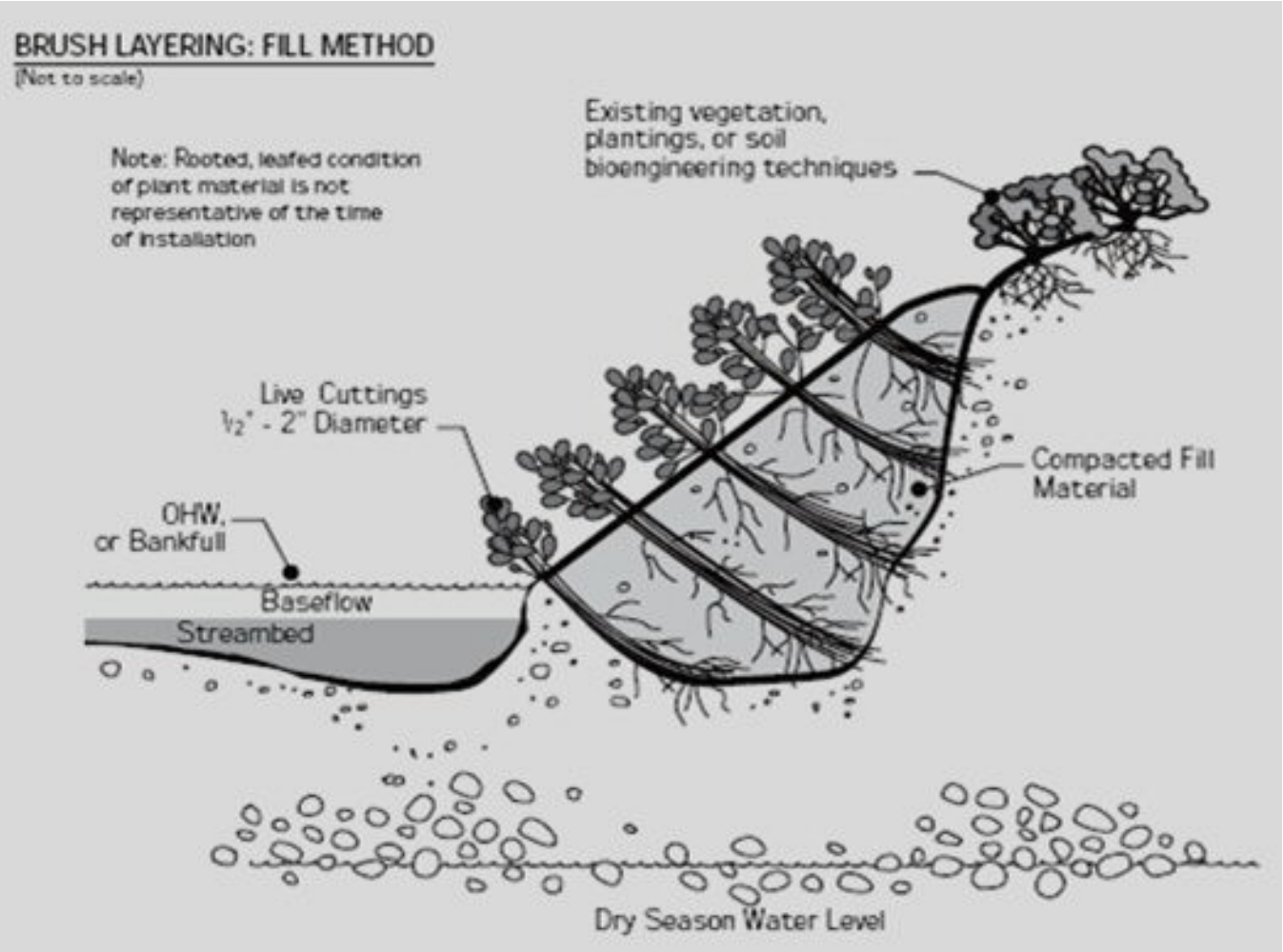
The plantings impede runoff by reducing surface erosion and trap debris. The high number of plantings quickly dries out excessively wet slopes to add stabilization and increased bank stability allows additional vegetation to become established (USDA 2002). Vegetation leads to added habitat for fish and wildlife.

Brush layering can be relatively expensive and labor intensive. Brush layering is a more technologically advanced process compared to many other bioengineering techniques, so finding contractors who are familiar with the process may be difficult. Also, if large amounts of fill are to be used, heavy machinery is needed which can lead to high levels of siltation (Alaska Department of Fish and Game 2005). When bare or sloped banks exist, sediment control is necessary during installation to prevent large sediment deposits from entering the water.

Cuttings should be 0.5 to 2 inches in diameter and long enough to reach the back of the bench to allow rooting. When using the existing slope, the bench should be two to three feet deep and slightly angled down into the slope.If a fill slope is used, the plantings can be laid as fill is placed. The brush layer should be placed relatively perpendicular to the water body. Similar to live fascines, construction should begin closest to the water and proceed upward.

Benches are sloped so the outside edge is higher than the inside. Cuttings are laid in a crisscross pattern on the bench in groups of 20 to 25 cuttings per yard with one quarter of the cutting hanging over the bench. Two to four

inches of fill are placed around the cuttings, using the earth excavated from the bench. The area needs to be seeded and mulched once the layers are in place. If water flowing over the bank was a cause of the erosion, the water needs to be diverted from the area until vegetation is established (USDA 2002).



M. Brush Mattress

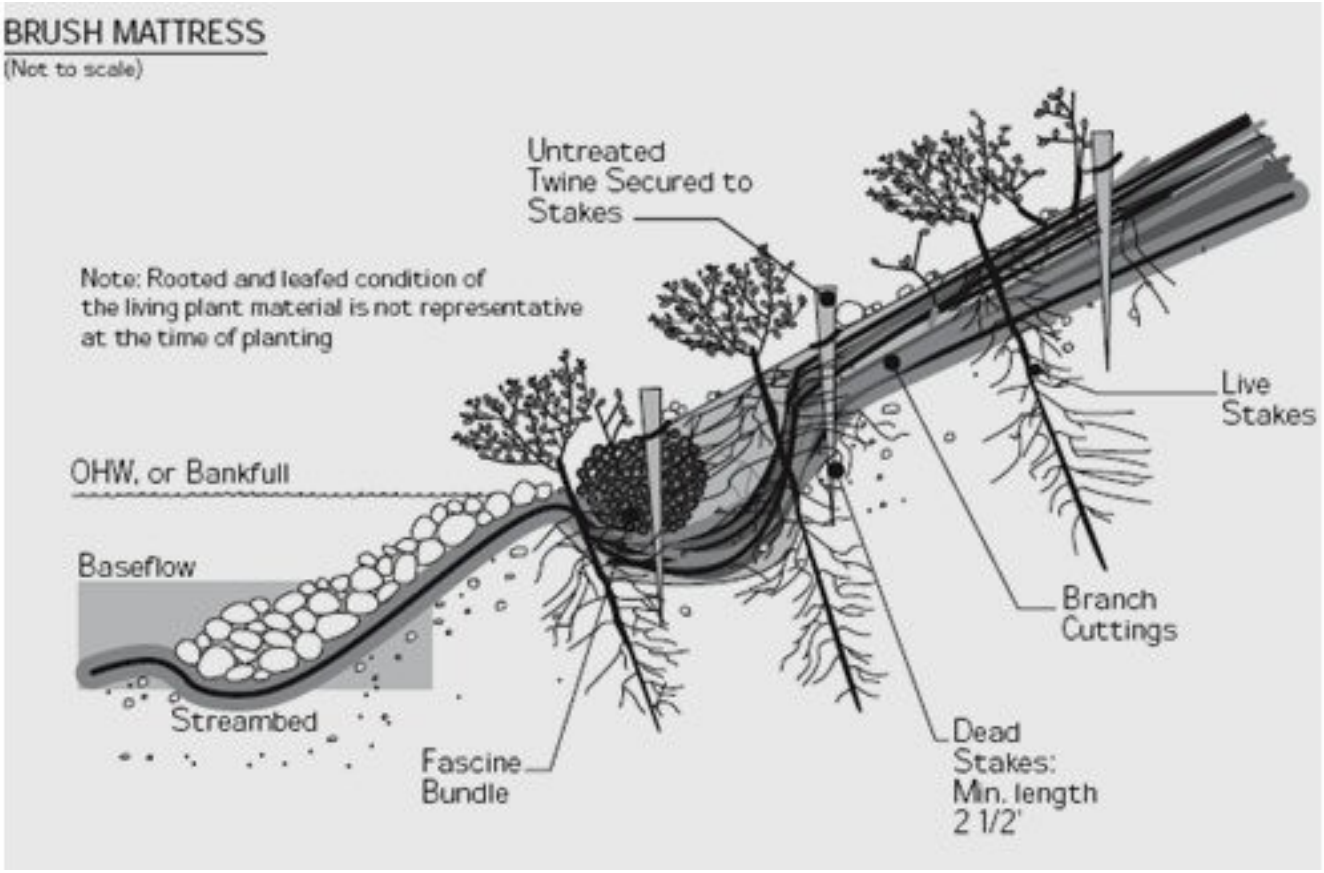
A brush mattress involves live branch cuttings, toe stabilization, live stakes, fascines, dead stakes, twine, and soil. With this technique, a heavy layer of dormant branches is laid in a crisscrossing pattern and secured to the bank with dead posts and twine. Live stakes are also installed for added protection and vegetation. Soil covers the branches and all live stakes must be covered to ensure growth. Toe protection is also a must for added stabilization, and can include rock, root wads, coconut fiber logs, or tree revetments, depending on the situation. Once the cuttings and stakes have sprouted, the extensive vegetation provides bank protection (Allen and Fischenich 2000).

This technique provides multiple advantages, including immediate bank coverage. The interlocking mattress created through the intertwined cuttings forms a protective layer over the bank following installation (USDA 2002). The cuttings start slowing velocities, collecting sediment, and providing habitat before they are fully established and also collect sediment during flood conditions (Allen and Fischenich 2000). Additional native species often become established over time and all the vegetation restores the riparian environment, thereby enhancing the area for wildlife and aquatic life (USDA 2002). Sediment collection can also reduce non-point source pollution by intercepting contaminants before they reach the water (Allen and Fischenich 2000).

Brush mattresses are only suitable for stable slopes with a 2:1 maximum slope and should be installed just above the ordinary high-water mark. Branches should be six to nine feet long and one inch in diameter. Eight to twelve inches are needed for toe anchoring, and the cuttings need to have some flexibility to conform to the slope face. The bank should be graded to the angle of repose. A trench is needed near the toe to hold the basal ends of the cuttings as well as a live fascine. Live and dead stakes should be placed evenly across the mattress, ensuring the

live stakes are deep enough to reach the dry season water table. Cuttings are placed in a crisscross pattern four to six inches thick with basal ends in the trench. When placing the cuttings, the basal ends must be covered with soil capable of retaining enough moisture for growth. After the cuttings are laid, stretch twine throughout the dead stakes, wrapping it tightly around each stake. Once the twine is in place, the stakes should be tamped into the ground until the twine is tight against the slope. A live fascine should then be placed in the trench and secured with dead stakes and all slope voids should be filled with a thin layer of soil (USDA 2002).

Because many materials need to be collected immediately before construction, the technique can be complicated and labor intensive. Live stakes, dead stakes, and live fascines are needed, and root wads, tree revetments, or coconut fiber logs are recommended for toe protection. Cuttings must be dormant, meaning construction of the system can only occur during a specific season, usually September to March (USDA 2002).



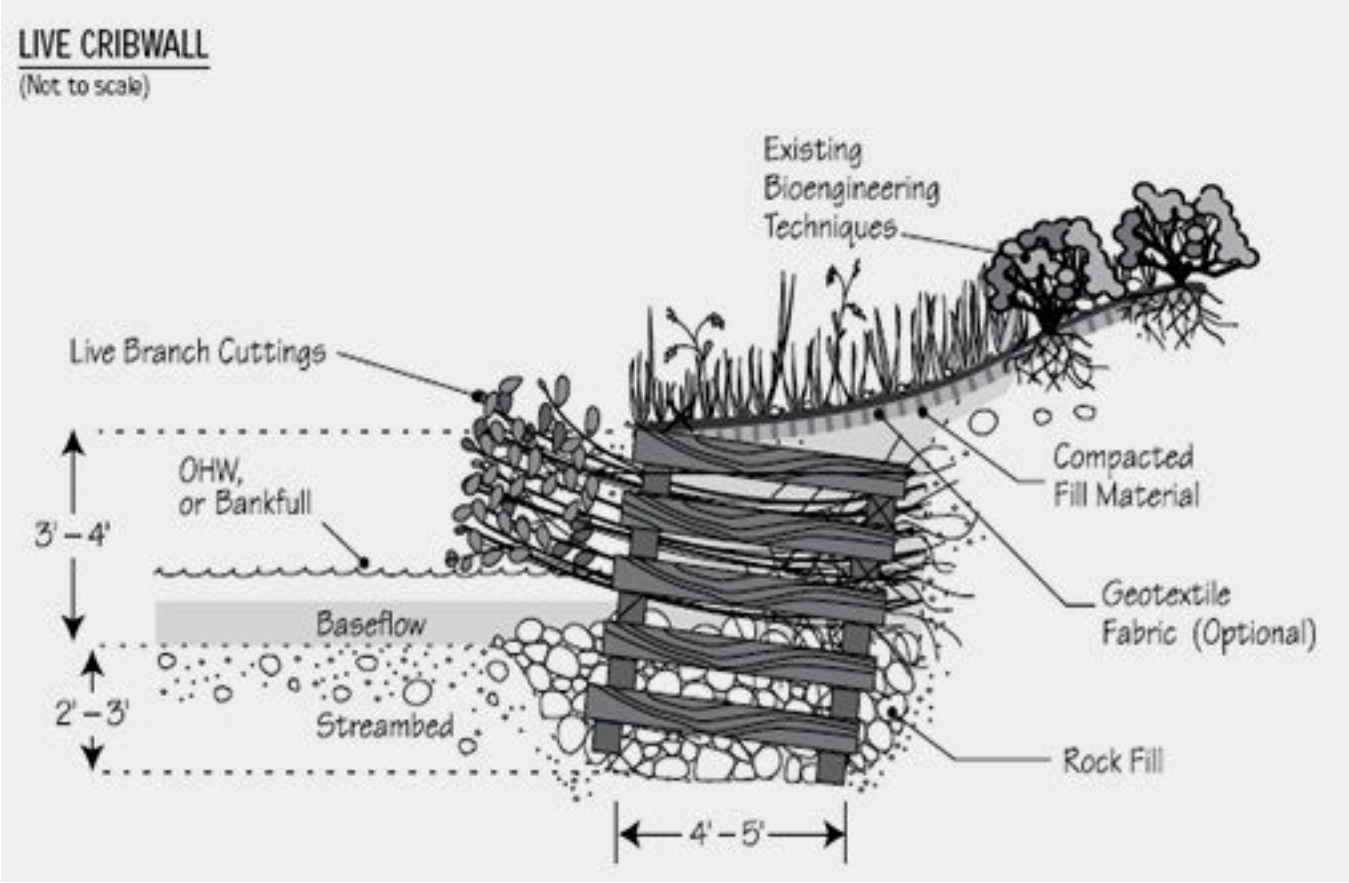
N. Live Cribwall

A live cribwall is a technique in which an engineered material is constructed into a streambank consisting of untreated logs or timber built in a log cabin-like arrangement (USDA 2002). The structure is filled with rock, soil, and plantings. The live branch cuttings are placed through the structure and take root, stabilizing the soil by drying out the bank and forming a strong root matrix. The rocks help prevent future erosion and provide prime habitat for aquatic species. The timbers provide immediate erosion protection, while the cuttings and rocks will protect the streambank after the logs have deteriorated.

Live cribwalls are most effective when used on virtually vertical banks, including areas where regrading the slope does not exist (USDA 1998). If regrading is feasible, cribwalls can be installed as a low wall to serve as toe protection. Cribwalls can be used on the outside bends of streams with high velocity flow but additional rocks may need to be placed in front of the cribwall to provide added toe protection (USDA 1996). Live cribwalls are also used in areas where it is possible for erosion to form split channels (USDA 2002).

Cribwalls are advantageous in the above situations and provide a rather natural appearance once the cuttings are established. Due to the large amount of materials (especially lumber) needed for construction, and the labor involved, live cribwalls can be expensive. Cribwalls are constructed onsite, the rocks and cuttings are hand placed and the area backfilled. Installation can only occur during low water flow (USDA 1998).

Live, dormant branch cuttings should range in size from 0.5 to 2.5 inches in diameter, be long enough to reach the back of the cribwall, and be of species that root well, such as dogwoods and willows. The streambank needs to be excavated two to three feet below the existing streambed until a stable foundation of five to six feet can be established. The back of the foundation is excavated six to twelve inches lower than the front so the cribwall is tilted to aid in stability. Logs are constructed in a stacking pattern where the sides overlap perpendicularly, as in a log cabin, and reinforced through nailing. After a cribwall is constructed and in place, rock is lowered to the existing streambed. If added toe protection is needed, additional rocks can be placed in front of the wall. Next, a layer of cuttings is placed through the cribwall, followed by fill dirt. Layers of cuttings and earth are placed at each course in the cribwall until the top of the structure is reached. The system is covered with fill and the soil compacted to help prevent erosion while the plantings become established (USDA 2002). Walls should be no taller than seven feet and shorter than 20 feet in length (USDA 1996).



O. Tree Revetments and Log, Root Wad and Boulder Revetments

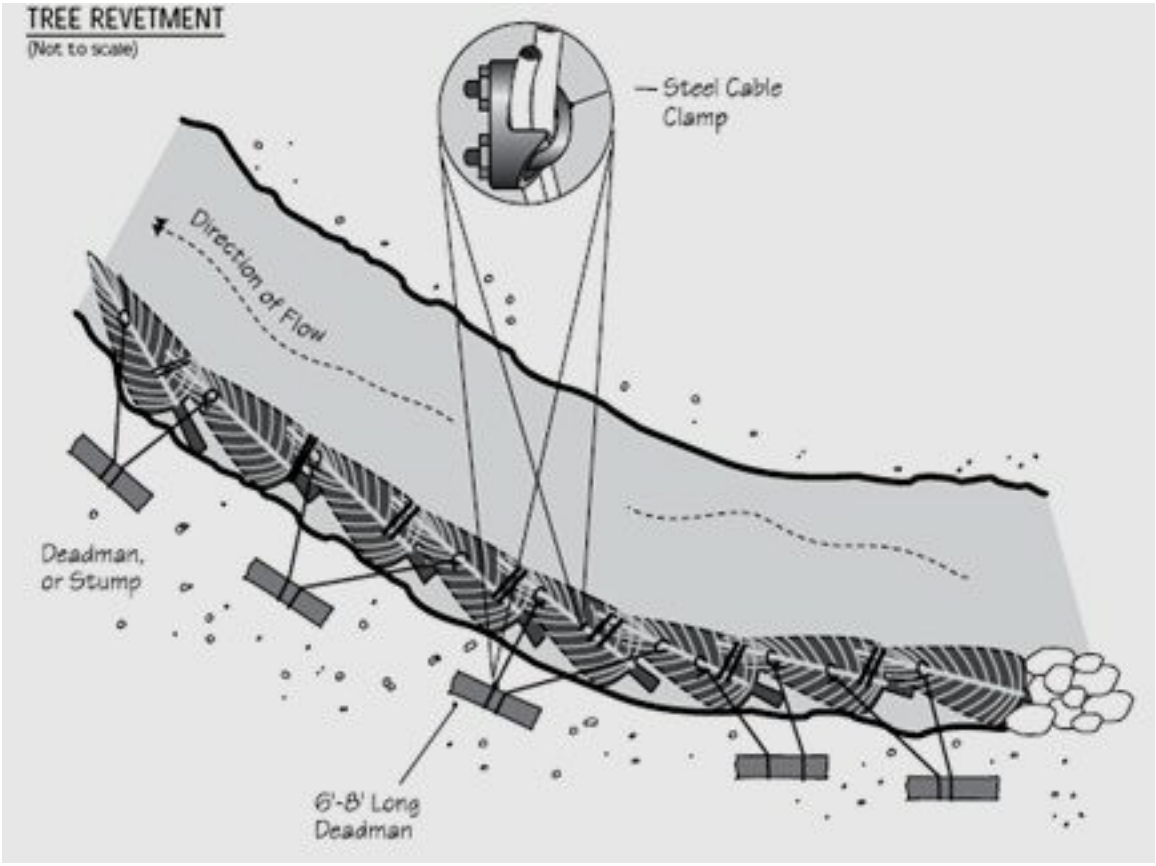
Tree revetments are bioengineering techniques involving the placement of whole trees cabled together and anchored to the bank for armoring. The root wads are removed while the branches are left in place. Tree revetments where the branches have been removed are also known as "log revetments". This system is a rather inexpensive technique that can be constructed with readily available materials (USDA 2002).

The purpose of tree revetments is to slow the velocity of water hitting the banks while also collecting sediment along the banks. Revetments assist in slowing erosion to give vegetation the time it needs to establish and begin permanently stabilizing the bank. Sedimentation provides a fertile seedbed for colonization of native vegetation (USDA 1998). Rooted vegetation stabilizes the bank and remains long after the trees rot away, providing more permanent stabilization (Goard 2006). The branches not only slow flow and collect sediment, but also provide ideal fish habitat and wildlife cover (USDA 2002). Tree revetments require periodic maintenance to replace trees that have been damaged or have started deteriorating before the vegetation along the bank is established. Additionally, as the trees deteriorate, the steel cables used in the system must be removed.

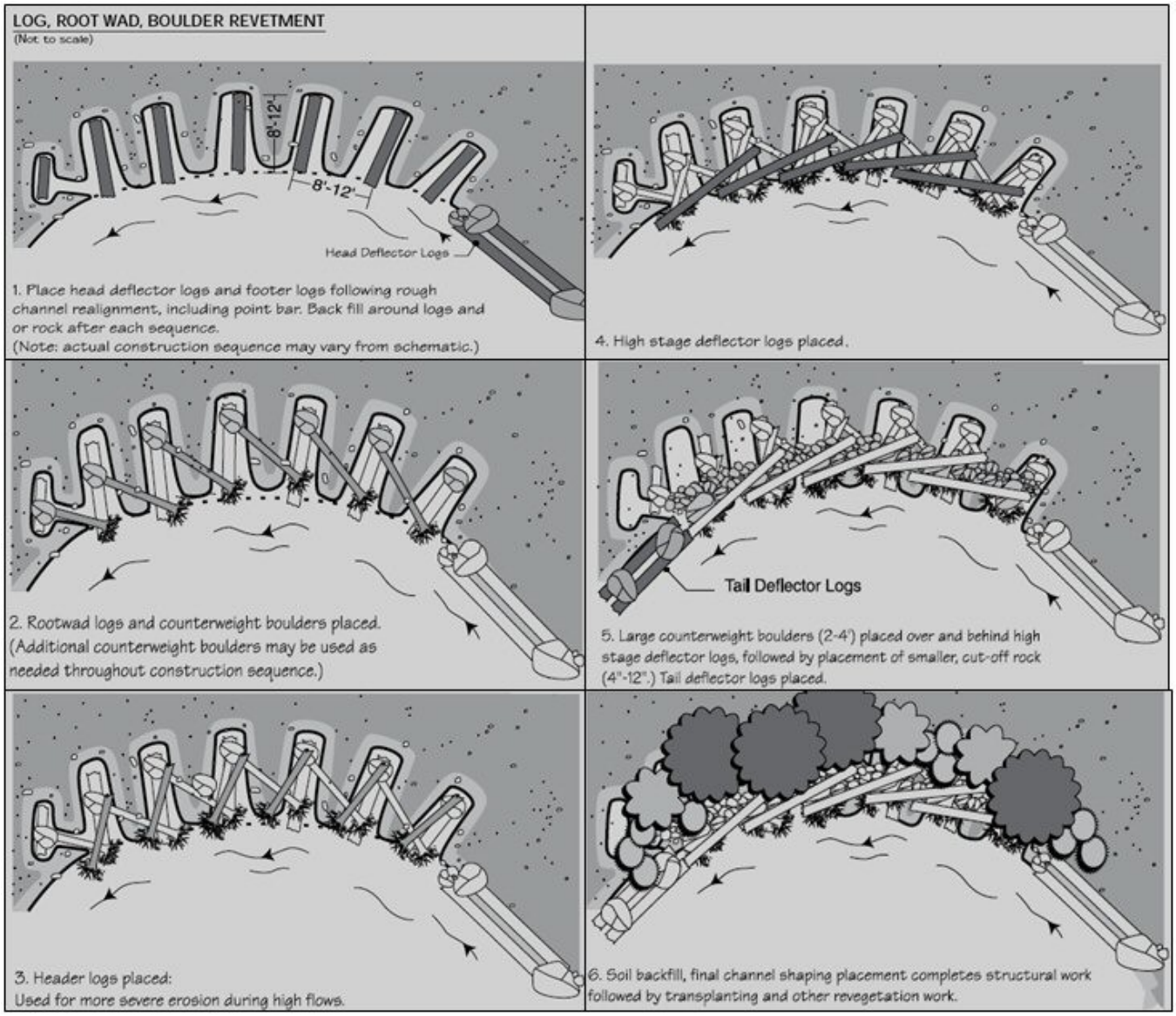
Tree revetments are usually placed on the outsides of small to medium velocity bends where vegetation has been removed and the banks are exposed (Goard 2006). A tree revetment cannot be placed upstream of bridges or other structures capable of being damaged because the revetment can washout during heavy flooding or heavy

ice flow (USDA 2002, USDA 1998).

Trees should be laid along the banks with the tree tops pointing downstream, with each tree overlapping its neighbor by one-third. Upstream and downstream ends need to be keyed into the bank to prevent further erosion. Trees can be anchored in one of two ways. In the first method, trees are placed in the bottom of the streambed, cabled together, the cable is wrapped around the tree, ends placed through the clamp, and then the cable is cinched down and tightened. In the second method, the steps for tying the trees together are the same, but the system as a whole is installed differently. After the cable is cinched and tied down, t-posts are installed on the landward side of the trees, with a rope tied around the trees and the t-posts. All are lowered into the water as one system. The rope holds the trees in place so that the anchor cable and log cable can be clamped together and then cinched. Christmas trees are commonly used to create a revetment. Duckbill anchors are used to hold the revetment into the bank. T-posts are used with smaller tress for a better hold (USDA 2002).



Log, root wad, and boulder revetments are a combination of bioengineered materials using the ideas from log revetments and boulder revetments. This technique is often used when added erosion protection is needed (USDA 2002).



III. History

This Information Bulletin was first published in the Indiana Register on April 4, 2012 (20120404-IR-312120154NRA). On xx, 2021, the Commission approved this First Amendment making technical amendments.

Appendix A: Works Cited

Alaska Department of Fish and Game. 2005. Streambank Revegetation and Protection: A Guide for Alaska Revised 2005. Alaska Department of Fish and Game, Division of Sport Fish.

Allen, Hollis H. and Craig Fischenich. 2000. Brush Mattresses for Streambank Erosion Control. EMRRP Technical Notes Collection (TN EMRRP-SR-23), U.S. Army Engineer Research and Development Center, Vicksburg, MS.

Goard, Deborah. 2006. Riparian Forest Best Management Practices: Tree Revetments. Publication MF-2750. Kansas State University Agricultural Experiment Station and Cooperative Extension.

Harman, William A. and Rachel Smith. 2002. Fact Sheet Number 4: Using Root Wads and Rock Vanes for Streambank Stabilization. River Course. Publication AG-590-4. North Carolina Cooperative Extension Service.

Hoyer, Daria. 2002. Live Siltation Biotech Tip. Erosion Control. July/August 2002, Forester Media, Inc.

Maryland Department of the Environment (MDE). 2000. Section 2: Soil Protection and Stabilization Techniques. Waterway Construction Guidelines. Maryland Department of the Environment, Water Management Administration.

Massachusetts Department or Environmental Protection (MassDEP). 2006. Chapter 8: Stream Corridor and Shoreline Restoration. Massachusetts Nonpoint Source Pollution Management Manual. Geosytec Consultants.

Murphy, Michael and Dennis Dreher. 1996. Shoreline stabilization: bioengineering alternatives. Lake Notes. Illinois Environmental Protection Agency.

State of Georgia. 2000. Guidelines for streambank stabilization. GA: State of Georgia, Georgia Soil and Water Conservation Commission.

United States Department of Agriculture, Natural Resources Conservation Service. 1996. Chapter 16 Streambank and Shoreline Protection. Engineering Field Handbook. Part 650. Washington, D.C. U.S. Department of Agriculture, Natural Resources Conservation Service.

United States Department of Agriculture, Natural Resources Conservation Service. 1997. The Native Plant Guide for Streams and Stormwater Facilities in Northeastern Illinois. U.S. Department of Agriculture, Natural Resources Conservation Service, Chicago Metro Urban and Community and Assistance Office.

United States Department of Agriculture. 1998. Stream Corridor Restoration: Principles, Processes, and Practices. Federal Interagency Stream Restoration Working Group. GPO Item No. 0120-A. Washington, D.C., U.S. Department of Agriculture.

United States Department of Agriculture, Forest Service. 2000. Soil Bioengineering An Alternative for Roadside Management. 7700 Transportation Management. San Dimas, CA. U.S. Department of Agriculture, Forest Service, Technology and Development Program.

United States Department of Agriculture, Forest Service. 2002. A Soil Bioengineering Guide for Streambank and Lakeshore Stabilization. Publication FS-683. San Dimas, CA. U.S. Department of Agriculture, Forest Service, Technology and Development Program.

Wendt, Cathy J. and Hollis H. Allen. 2001. Archaeological site and reservoir shoreline stabilization using wetland plants and bioengineering, Rice Reservoir, Wisconsin. Water Quality Technical Notes Collection (ERDC WQTN-CS-02), U.S. Army Engineer Research and Development Center, Vicksburg, MS.

Appendix B: Plant list

Native Shoreline and Wetland Plants					
Grasses/Sedges			**Means Sold**		
Scientific Name	**Common Name**	**Height**	**Seed**	**Plant**	**Both**
Carex comosa	Bristly Sedge	2-3'			X
Carex frankii	Frank's Sedge	1-2'			X
Carex lacustris	Hairy Sedge	2-4'			X
Carex lurida	Shallow Sedge	2-3'			X
Carex vulpinoidea	Brown Fox Sedge	2-3'			X
Eleocharis obtusa	Blunt Spikerush	1-2'			X
Eleocharis palustris	Spikerush	1-2'			X
Elymus virginicus	Virginia Wildrye	2-4'			X
Glyceria striata	Fowl Mannagrass	1-5'			X

Juncus effusus	Common Rush	1-4'			X
Juncus torreyi	Torrey's Rush	1-2'		X	
Leersia oryzoides	Rice Cutgrass	2-4'			X
Panicum virgatum	Switch Grass	3-5'			X
Schoenoplectus fluviatilis	River Bulrush	3-7'		X	
Schoenoplectus pungens	Chairmakers rush	2-5'			X
Schoenoplectus tabernaemontani	Softstem Bulrush	4-8'			X
Scirpus atrovirens	Green Bulrush	3-5'			X
Forbes					
Acorus calamus	Sweet Flag	1-4'			X
Alisma spp.	Water Plantain, various	2-4'	X		
Asclepias incarnata	Swamp Milweed	3-5'			X
Bidens spp.	Bidens, various	1-3'	X		
Caltha palustris	Marsh Marigold	1-2'		X	
Eupatoriadelphus maculatus	Spotted Joe Pye Weed	4-7'			X
Eupatorium perfoliatum	Boneset	3-5'			X
Helenium autumnale	Sneezeweed	3-5'			X
Hibiscus spp.	Rosemallow, various	3-7'			X
Iris virginica shrevei	Blue Flag Iris	2-3'			X
Lobelia cardinalis	Cardinal Flower	2-5'			X
Lobelia siphilitica	Great Blue Lobelia	1-4'			X
Senna hebecarpa	Wild Senna	3-5'			X
Symphyotrichum lanceolatum	White Panicle Aster	3-5'			X
Verbesina alternaifolia	Wingstem	3-7'		X	
Shrubs/Trees			**Means Sold**		
Scientific Name	**Common Name**	**Height**	**Bare Root**	**Potted**	**Both**
Cephalanthus occidentalis	Buttonbush	20'			X
Cornus alternifolia*	Alternate-Leaf Dogwood	25'		X	
*Cornus obliqua**	Silky Dogwood	3-10'			X
*Cornus sericea**	Red-Osier Dogwood	3-10'			X
Hamamelis virginiana	Witch-Hazel	20-30'		X	
Ilex verticillata	Winterberry	20'			X
Lindera benzoin	Spicebush	6-12'			X
*Salix amygdaloides**	Peachleaf Willow	40'		X	
*Salix discolor**	Pussy Willow	20'		X	
*Salix interior**	Sandbar Willow	20'			X
*Salix lucida**	Shining Willow	20'		X	
*Salix sericea**	Silky Willow	4-12'			X
Sambucus canadensis	Elderberry	up to 15'	X		
* Species suitable for live stakes					

Plant names based on nomenclature from USDA PLANTS database:

USDA, NRCS. ~~2012~~ **2021**. The PLANTS Database (~~http://plants.usda.gov, 28 February 201~~2) **(https://plants.sc.egov.usda.gov/home, 06/24/2021).** National Plant DataTeam, Greensboro, NC ~~27401-4901~~ USA.

NATURAL RESOURCES COMMISSION

Information Bulletin #79 (First Amendment)

SUBJECT: In-Lieu Fee Mitigation

1. Purpose

The purpose of this bulletin is to identify the service areas and credit prices for mitigation through the In-Lieu Fee Program (ILFP) as authorized by 312 IAC 9.5-3-1. A person that seeks to obtain a permit under the Flood Control Act, IC 14-28, the Lake Preservation Act, IC 14-26, or the Navigable Waterways Act, IC 14-29, may be required to conduct mitigation for impacts to fish, wildlife, and botanical resources. While effort is made to avoid and minimize a project's impact on fish, wildlife, and botanical resources, in some instances compensatory mitigation is necessary to offset unavoidable impacts.

The Natural Resources Commission (Commission) adopted "Habitat Mitigation Guidelines" (hereafter referred to as HMG), Information Bulletin #17, ~~Fifth~~ **Sixth** Amendment, published in the Indiana Register at ~~20200527-IR-312200284NRA~~ **(insert new DIN)**, which provides guidance on the assessment and determination of necessarycompensatory mitigation.

Compensatory mitigation plans developed in accordance with the HMG are carried out on a site at or near a project site to reduce the impact of disturbed areas and diminished or degraded habitat for fish, wildlife, and botanical resources. Permittees often have difficulty locating a suitable mitigation site and fulfilling the time consuming and often financially burdensome long-term monitoring and corrective actions. In addition, the individualized approach to compensatory mitigation typically results in smaller habitat areas of poorer quality than can be achieved through a more coordinated effort.

Under the ILFP approach to mitigation, permittees and violators may be authorized to purchase ILFP credits from the Department of Natural Resources (DNR). Funds generated from the ILFP will be accumulated to finance larger, more sustainable mitigation sites, thereby maximizing mitigation efforts. The purchase of ILFP credits will satisfy the mitigation requirements that would otherwise be required under a permit.

Mitigation associated with the Lake Preservation Act is rare and highly variable. For this reason, although the HMG and this bulletin are applicable to mitigation for impacts to public freshwater lakes, neither the HMG nor this bulletin provides an in-depth discussion associated with that topic. Mitigation of impacts to public freshwater lakes will be considered on a case-by-case basis using both the HMG and this bulletin as guidance.

While 312 IAC 9.5-3 does not expressly address the use of ILFP mitigation to address the impact of violations of the Flood Control Act, the Lakes Preservation Act, or the Navigable Waterways Act, it is determined that ILFP mitigation is permissible and shall be considered in developing mitigation plans for such violations.

2. Administration of the ILFP Funds

Through the ILFP, the Indiana Natural Resources Foundation (INRF) serves as the fiscal agent and receives funds as ILFP credits are purchased. The INRF will transfer ILFP funds to the DNR, to be used solely for conducting future mitigation. All ILFP funds held by the INRF, including interest, shall be utilized solely for the benefit of the ILFP in accordance with 312 IAC 9.5. ILFP funds held by the INRF shall not be diverted by DNR or the INRF for other uses and shall not revert to any other fund at the end of the state's fiscal year.

3. In-Lieu Fee Credit Pricing

The ILFP mirrors several aspects of a complementary program, the Indiana Stream and Wetland Mitigation Program (IN SWMP), which was approved by the US Army Corps of Engineers (USACE) to address mitigation associated with permits issued by the USACE and the Indiana Department of Environmental Management (IDEM) under the Federal Clean Water Act and the state's isolated wetland law. DNR's Division of Land Acquisition is the IN SWMP program sponsor and will also administer the mitigation efforts funded by the ILFP. Several aspects of IN SWMP are mirrored in the ILFP to improve clarity for the regulated public and enhance coordination between the programs to increase mitigation output. Additional information regarding IN SWMP can be found at:

~~http://on.in.gov/inswmp~~

https://www.in.gov/dnr/land-acquisition/stream-and-wetland-mitigation-program/

The ILFP credit prices will align with the IN SWMP credit prices to the greatest extent possible. The credit prices that are determined by the Division of Land Acquisition incorporate the full cost of fulfilling mitigation obligations, including costs associated with administering the program, land acquisition, mitigation project planning and design, permitting, construction (including labor and materials), legal fees, permanent site protection, and short and long term monitoring, maintenance, and management, as well as any other costs necessary to complete mitigation projects for regulatory approval. Purchase prices for ILFP credits are specified in Appendix A.

Although DNR, IDEM, and USACE have different regulatory responsibilities, their jurisdictional areas often overlap. As a result, activities undertaken by a member of the regulated public near bodies of water may fall under the jurisdiction of one or more than one of these agencies. If an activity is under the jurisdiction of more than one of the three agencies, a single credit transaction through the ILFP or through the IN SWMP may address all areas of overlapping jurisdiction. If, however, there are additional areas of impact involved that are within DNR's sole jurisdiction, additional ILFP credits will be required to fully address the DNR mitigation requirement.

4. In-Lieu Fee Credit Purchasing

The types and amounts of mitigation required will be determined by DNR as specified in the HMG. An individual may seek authorization from DNR to fulfill the mitigation requirements using the ILFP by submitting the necessary form in accordance with 312 IAC 9.5, including the submission of required documentation. If DNR approves the use of the ILFP for mitigation, DNR may issue a permit or reconcile a violation through the purchase of ILFP credits.

A permit applicant shall complete the purchase of ILFP credits before conducting approved activities. A person reconciling a violation through the purchase of ILFP credits shall complete the purchase within the time specified by DNR. Once sold to a permittee, ILFP credits may not be refunded.

5. Project Locations

ILFP funds will be used to conduct mitigation within the Service Area impacted by the project for which a permit was issued or where a violation occurred. The Service Areas are identified in Appendix B.

The Service Areas are defined as follows (HUC-8 in parentheses):

1. Calumet Dunes (04040001, 07120003).
2. Kankakee (07120001, 07120002).
3. St. Joseph River (04050001).
4. Maumee (04010003, 04010004, 04010005, 04010007).
5. Upper Wabash (05120101, 05120102, 05120103, 05120104, 05120105, 05120106, 05120107).
6. Middle Wabash (05120108, 05120109, 05120110, 05120111, 05120113, 05120203).
7. Upper White (05120201).
8. Whitewater-East Fork White (05080001, 05080002, 05080003, 05120204, 05120205, 05120206, 05120207).
9. Lower White (05120202, 05120208, 05120209).
10. Upper Ohio (05090203, 05140104, 05140101).
11. Ohio-Wabash Lowlands (05120113, 05140201, 05140202).

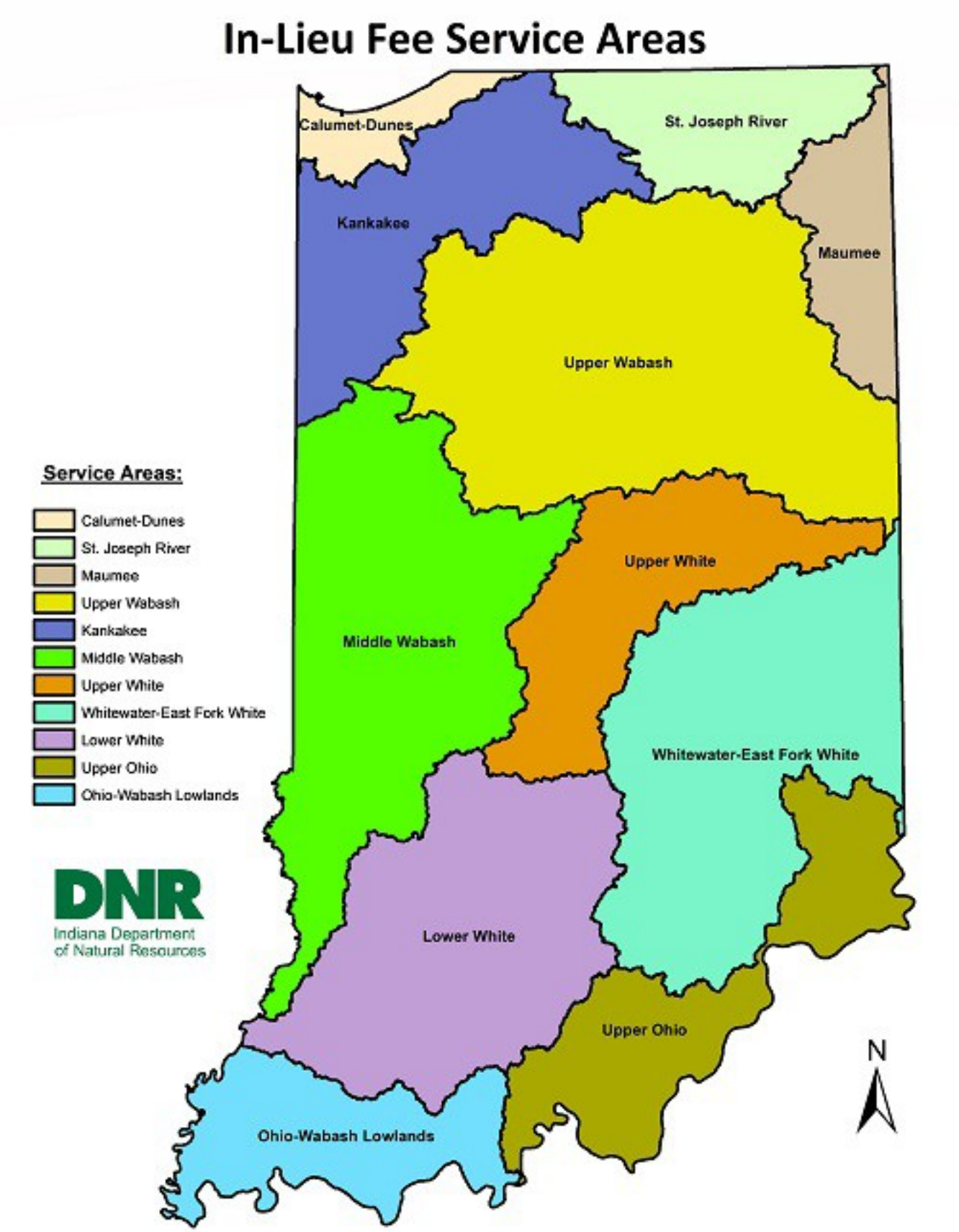
6. History

This Information bulletin was first published in the Indiana Register on June 3, 2020 (20200603-IR-312200289NRA). On xx, 2021, the Commission approved this First Amendment making technical amendments.

Appendix A: ILFP Credit Purchase Prices

Service Area	Stream Credit Price	Floodway/Lake Credit Price
Calumet-Dunes	$600	$95,000
St. Joseph River (Lake MI)	$600	$120,000
Maumee	$450	$80,000
Kankakee	$500	$95,000
Upper Wabash	$400	$80,000
Middle Wabash	$400	$80,000
Upper White	$450	$80,000
Whitewater-East Fork White	$400	$80,000
Lower White	$400	$80,000
Upper Ohio	$400	$80,000
Ohio-Wabash Lowlands	$400	$80,000

Appendix B: In-Lieu Fee Service Area



NATURAL RESOURCES COMMISSION

Information Bulletin #81 (First Amendment)

SUBJECT: Roster of Low Head Dams

I. INTRODUCTION

A. Background

In 2020, the Indiana General Assembly enacted IC 14-27-7.3 to bring focus to the topic of safety at low head dams. A "low head dam" is now defined at IC 14-27-7.3-2 and this "roster" is defined at IC 14-27-7.3-3. In addition, a new chapter regarding the requirements for low head dams is found at IC 14-27-7.3-1, et seq.

Low head/in-channel dams are typically structures left behind by industrial activities early in the nation's history. The ownership of many of these dams has been obscured by time. In many cases, their original purpose has since expired, but they remain deceivingly dangerous. During periods of high water, these structures often create dangerous currents around, up and downstream of the structure. These dams normally:

- span the entire river channel or stream width,
- have a noticeable change in elevation from upstream to downstream under normal flow conditions,
- are easily accessible to the general public for fishing and hiking activities,
- have a deteriorating structure and foundation, and
- create dangerous currents around the structure that can overcome paddled and even motorized watercraft.

While many low head dams may not pose a traditional safety of dam's risk and may not pose a recreational risk during very low water flow conditions, they can be deceivingly dangerous to those recreating during increased water flows or mild flooding conditions.

There is a significant difference in focus of "safety of dams" programs vs. "safety at dams". Recreation and boater safety near in-channel dams are not typically regulated by dam safety programs in states throughout the nation. As with most other state dam safety programs, Indiana's existing Regulation of Dams Act, IC 14-27-7.5 (active since 1961), focuses primarily on "safety of dams" meaning the structural integrity aspects of dams and the risk to downstream life and property, should a dam have an incident or failure that causes downstream flooding.

Low head dam mitigation involves a multi-disciplined, and multi-party collaborative effort. Public and private volunteer stakeholders have already begun several outreach and awareness initiatives. Collaborating stakeholders include dam owners, recreational users, private sector and non-profit groups, and federal/state/local agencies.

B. Document Purpose

This document creates a Roster of Low Head Dams (Roster) regulated under IC 14-27-7.3.

This document does not:

- Authorize or permit construction activities or modifications to any low head dams.
- Remove any obligation provided for by any federal, State, or local law, administrative rule, regulation, ordinance, or similar requirement.
- Preclude compliance with any other federal, State, or local law, administrative rule, regulation, ordinance, or similar requirement.
- Constitute verification that an identified dam owner, is in fact the current legal or sole owner of a dam.
- Alter the statutory authority for State employees and their agents to enter privately owned land to assess the condition of a low head dam.
- Convey public access or easement rights to any low head dam across private property or to erect or maintain low head dam warning signage.

II. DEFINITIONS

For the purposes of this Non-Rule Policy Document:

A. "Division" means; the Division of Water of the Indiana Department of Natural Resources (DNR).

B. "Low head dam" has the meaning set forth in IC 14-27-7.3-2. A "low head dam" means a manmade in-channel structure in a watercourse that is capable of generating hazardous recirculating currents that pose a risk to public health and safety and causes the watercourse to have a vertical drop of twenty-five (25) feet or less.

The term does not include:

(1) a dam with a downstream structure in place to dissipate the hydraulic energy of the water past the crest of the dam; or

(2) ramped impoundments which drop at slopes of five percent (5%) or flatter.

C. "Roster" has the meaning set forth in IC 14-27-7.3-3. The listing of low head dams in this document includes the location of each dam in Indiana and, to the extent feasible, the owner of the dam. If an owner cannot be identified, the roster must list the owner as unknown. The Roster is proposed by the Division and adopted by the Natural Resources Commission (Commission).

III. ROSTER OF LOW HEAD DAMS

			Location		
				Closest Road d/s-downstream u/s – upstream N - North S - South E – East W- West	
State ID #	Location County	Dam Name	Waterbody Name		Name of Owner(s)
2-3	Allen	Hosey (Maumee River)	Maumee River	N Anthony Blvd. and Niagara Dr. - d/s	Fort Wayne City Utilities
2-4	Allen	St. Joseph River	St. Joseph River	State Rd. 930 - u/s and N Anthony Blvd.	City of Fort Wayne
2-13	Allen	Spy Run Dam	Spy Run Creek	E 4th Street - d/s	Fort Wayne City Utilities
3-7	Bartholomew	Q.G. Noblitt Dam	Flatrock River	Indianapolis Rd. d/s and Flatrock Dr. (E)	Noblitt Addition Owner's Association
3-13	Bartholomew	East Fork White River	East Fork White River	State Rd. 46 - u/s	City of Columbus - Board of Public Works and Safety
3-39	Bartholomew	Haw Creek N.E.	Tributary to Haw Creek	Rocky Ford Rd. - u/s	City of Columbus - Board of Public Works and Safety
9-1	Cass	Pipe Creek Falls	Pipe Creek	S County Rd. 850 E - d/s and E County Rd. 275 S (W)	Thomas Marlott
9-2	Cass	Lower Pipe Creek	Pipe Creek	S County Rd. 850 E - d/s	James A. Swanson Jr
9-4	Cass	Logansport 10th. Street	Eel River	State Rd. 25 - d/s	Logansport Municipal Utilities
9-6	Cass	Logansport 9th. Street	Eel River	State Rd. 25 - d/s	Logansport Municipal Utilities
10-2	Clark	Tunnel Mill	Fourteenmile Creek	Tunnel Mill Rd. - d/s or New Market Rd. -d/s	Lincoln Heritage BSA
10-4	Clark	Blackiston Mills	Silver Creek	Fourth Dam Rd. - d/s or Blackiston Mill Rd. - d/s	Larry & Nancy Beeler
13-1	Crawford	Milltown	Blue River	Main Street - u/s	Johnny And Justin Hammond and others
16-2	Decatur	Greensburg Water	Flatrock River	N US Highway 421 - d/s	Greensburg Water Dept
16-3	Decatur	Westport Water	Sand Creek	W County Rd. 1100 S - u/s and W Laytons Dr. - u/s	City of Westport
18-3	Delaware	Muncie Waterworks	West Fork White River	E Memorial Dr. - u/s and S Burlington Dr. (W)	Indiana-American Water Company Inc.
18-7	Delaware	Pauline Street	West Fork White River	N Wheeling Ave. - u/s and W Washington Street - d/s	City of Muncie
19-9	Dubois	Dubois-Patoka River	Patoka River	State Rd. 545 - d/s and N Cuzco Rd. - d/s	Indiana (DNR)
19-27	Dubois	Jasper-Patoka River	Patoka River	State Rd. 164 or E 3rd Ave. - u/s and N Riverwalk - d/s	City of Jasper
20-3	Elkhart	Elkhart River	Elkhart River	S Elkhart Ave.- d/s	Elkhart Public Works

				and County Rd. 9 or Prairie Street - u/s	
20-7	Elkhart	Bainter Town Dam	Elkhart River	County Rd. 142 - d/s	Elkhart County Parks & Rec Board
20-8	Elkhart	Bonneyville Mill Dam	Little Elkhart River	County Rd. 131 - u/s	Elkhart County Parks & Rec Board
20-9	Elkhart	Little Elkhart River	Little Elkhart River	State Rd. 13 and Miller's Cider Mill - u/s and Bristol Ave. (W)	Alta Miller
20-11	Elkhart	Benton Dam	Elkhart River Hydraulic Canal	US 33 - u/s and County Rd. 31 - d/s	Elkhart County Parks & Rec Board
20-14	Elkhart	Christiana Creek	Christiana Creek	Cassopolis Street - u/s and E Beardsley Ave. - d/s	City of Elkhart
23-2	Fountain	Snoddy Mill	Coal Creek	S Stringtown Rd. - d/s and W County Rd. 640 S	Michael Horvath
23-4	Fountain	Pratt	Little Shawnee Creek	Adams Street - bridge over weir	Michael Trueblood
24-1	Franklin	Laurel Feeder	Whitewater River	Laurel Rd. - u/s, State Rd. 121 W and Dam Rd. E	Indiana (State Museum and Historic Sites)
27-3	Grant	Old Mill	Mississinewa River	W/E Highland Ave. - d/s	City of Marion
29-2	Hamilton	Riverwood Power	West Fork White River	E 206th Street - d/s IN-37 and E 211 St (East)	Duke Energy
29-13	Hamilton	Williams Creek	Williams Creek	W 106th Street - u/s Spring Mill Rd. and Millridge Dr. (East)	David & Jacqueline Simon
31-4	Harrison	Indian Creek No. 1	Indian Creek	State Rd. 337 or Old Hwy 135 - d/s	Corydon Water Utilities
34-5	Howard	Kokomo Creek	Kokomo Creek	S Webster Street - u/s and Stadium Dr. (East)	City of Kokomo
34-7	Howard	Kokomo Waterworks #3	Wildcat Creek	E Carter Street - d/s and S Reed Rd. - u/s	Indiana American Water
35-1	Huntington	Salamonie River	Salamonie River	State Rd. 5 or S Wayne Rd. - d/s	Salamonie Mills Inc.
35-6	Huntington	Belleville Mill	Salamonie River	W County Rd. 800 and Interstate 69 - u/s, S Belleville Rd. and W County Rd. 700 S (North)	Mike Driscoll
36-3	Jackson	Seymour Water Co.	East Fork White River	E County Rd. 725 N - u/s and N County Rd. 760 E (East)	Indiana- American Water
39-3	Jefferson	Camp Creek	Camp Creek	County Rd. W 1000 N - u/s and N State Rd. 7 (East)	Hoosier Hills BSA
40-4	Jennings	N. Vernon Water Supply	Vernon Fork Muscatatuck	E Summit St and US Highway 50 - d/s	City of North Vernon
40-11	Jennings	Muscatatuck River	Vernon Fork Muscatatuck	Muscatatuck UTC Rd. - u/s and E County Rd. 425 N (South)	Indiana (National Guard)
41-4	Johnson	Thompson Mill	Big Blue River	State Rd. 252 or N Eisenhower Dr. - d/s	Town of Edinburgh
44-1	Lagrange	Star Mill Lower Dam	Fawn River	County Rd. N 50 W - d/s and N State Rd. 9 - u/s	Star Mill Inc.
44-1a	Lagrange	Star Mill	Fawn River	County Rd. N 50 W - d/s and N State Rd. 9 - u/s	Star Mill Inc.
44-4	Lagrange	Ontario Millpond	Pigeon River	County Rd. 420 N - d/s and County Rd. N 390 E - u/s	Indiana (DNR)
44-5	Lagrange	Nasby Lake	Pigeon River	N County Rd. 600 E - u/s	Indiana (DNR)
44-22	Lagrange	Wolcottville Town	Little Elkhart Creek	N 1st Street Over the dam and N Main Street - u/s	Town of Wolcottville
45-1	Lake	Hobart Deep River	Deep River	Liverpool Rd. - u/s and I-80 - d/s	Gary Community Schools
46-12	Laporte	Jack Ragle	Galena River	W County Rd. 650 N - d/s	Peter Murphy

47-5	Lawrence	Williams	East Fork White River	Williams Covered Bridge and Huron Williams Rd. - d/s and US Highway 50 - u/s	Indiana (DNR)
47-6	Lawrence	Avoca State Fish Hatchery	Tributary Goose Creek	State Rd. 54 - u/s and Avoca-Eureka Rd. - d/s	Marshall Township
48-1	Madison	Killbuck Creek	Killbuck Creek	E Grand Ave. - d/s	City of Anderson
48-7	Madison	Pendleton	Fall Creek	Main Street - u/s	City of Pendleton
49-1	Marion	10th Street - Eagle Creek	Eagle Creek	W 10th Street - d/s	Speedway Water Works
49-2	Marion	Fall Creek Keystone Ave.	Fall Creek	Intersection of E Fall Creek Parkway N Dr. and N Keystone Ave. - u/s	Citizens Energy Group
49-3	Marion	Harding St. Power	West Fork White River	S Harding Street - u/s	Indianapolis Power & Light[1]
49-28	Marion	Shirley Lake Park	Pleasant Run	N Shadeland Ave. - d/s	Shirley Lake Park
54-2	Montgomery	Sugar Creek	Sugar Creek	US Highway 231/Lafayette Rd - d/s	Crawfordsville Energy LLC
55-21	Morgan	West Fork White River	West Fork White River	US Highway 67 -d/s	Indianapolis Power & Light[2]
59-6	Orange	Lick Creek Dam No. 1	Lick Creek	State Rd. 37 - d/s	Town of Paoli
59-7	Orange	Lick Creek Dam No. 2	Lick Creek	State Rd. 37 - d/s and close to US Highway 150	Town of Paoli
59-8	Orange	Lick Creek Dam No. 3	Lick Creek	State Rd. 37 - d/s and close to US Highway 150	Town of Paoli
59-9	Orange	Lick Creek Dam No. 4	Lick Creek	State Rd. 37 - d/s and close to US Highway 150	Town of Paoli
59-14	Orange	French Lick Springs	French Lick Creek	State Rd. 56 - d/s	French Lick Springs Hotel and Country Club
61-3	Parke	Mansfield Mill Pond	Raccoon Creek	State Rd. 59 - d/s and off S Mill road	Indiana (DNR)
61-4	Parke	Raccoon Creek Bridgeton	Raccoon Creek	S Bridgeton Road - u/s	Michael & Karen Roe
63-29	Pike	Winslow Water Supply	Patoka River	State Rd. 61 - d/s	Town of Winslow
64-4	Porter	Roy Nicholson	Damon Run	N County Rd. 100 W - u/s	Arthur E. & Rosele E. Ostrowski
64-17	Porter	Bethlehem Steel no. 2	Tributary Little Calumet River	US Highway 12 - u/s	Tecumseh Redevelopment Inc.
64-18	Porter	Bethlehem Steel No. 3	Tributary Little Calumet River	US Highway 12 - u/s	Tecumseh Redevelopment Inc.
64-19	Porter	Bethlehem Steel No. 4	Tributary Little Calumet River	US Highway 12 - u/s	Tecumseh Redevelopment Inc.
64-20	Porter	Bethlehem Steel No. 5	Tributary Little Calumet River	US Highway 12 - u/s	Tecumseh Redevelopment Inc.
64-21	Porter	Linde Dam	Little Calumet River	State Rd. 149 - u/s	United States of America
67-2	Putnam	State Farm	Deer Creek	State Rd. 243 - u/s and close to Putnamville Correctional Facility	Indiana (DOC / DNR)
67-3	Putnam	Big Walnut Creek	Big Walnut Creek	US Highway 231 - d/s	City of Greencastle
67-5	Putnam	Old Cagles Mill	Mill Creek	W County Rd. 1200 S -u/s	Albert & Lily Killion
68-1	Randolph	White River	West Fork White River	S County Rd. 1250 W - d/s	David & Christina Bragg
68-5	Randolph	Sparrow Creek	Sparrow Creek	W State Road 32 - u/s	Richard & Melinda Waters
69-26	Ripley	Bob's Creek	Bobs Creek	E County Rd. 1400 N -u/s	City of Batesville
71-1	St. Joseph	South Bend	St. Joseph River	E Jefferson Blvd. - u/s	City of South Bend
71-2	St. Joseph	Ball Band	St. Joseph River	Cedar Street - u/s	Edge Water LLC

72-12	Scott	Morgan Packing Co.	Muscatatuck River	US Highway 31 and railway track - u/s	Morgan Packing Company & City of Austin
72-42	Scott	Lexington Presbyterian Church Dam	Town Creek	State Rd. 203 - d/s	United Presbyterian Ministries Inc.
73-3	Shelby	Old Monroe Mill	Flatrock River	State Rd. 9 - d/s	Ruth Davidson
73-4	Shelby	Geneva Upper	Flatrock River	E Vandalia Rd. - d/s	Angie Mclaughling
73-4a	Shelby	Geneva Lower	Flatrock River	E Vandalia Rd. u/s	Jack R Yeend
84-5	Vigo	Markle Mill	Otter Creek	Rosedale Rd. - d/s	Vigo County Parks & Rec.
85-6	Wabash	Stockdale Mill Dam	Eel River	State Rd. 16 - 100 yards down river	Stockdale Mill Foundation
89-2	Wayne	Marlott Mill	Greens Fork	Sample Rd. u/s 213 yds	Chaley Sadler
89-5	Wayne	Richmond Water Works	East Fork Whitewater River	Hayes Arboretum Rd. - u/s Close to Elks Country Club Rd.	Indiana American Water
89-13	Wayne	Whitewater Gorge	East Fork Whitewater River	692 yards. tall bridge. Richmond Ave.	City of Richmond
89-15	Wayne	Nettle Creek Mill	Nettle Creek	Tumike Rd. - d/s	Marjorie T. Myer

IV. ROSTER AMENDMENTS

IC 14-27-7.3-4 requires periodic amendment of this Roster. At least annually, DNR will review the information included within the Roster and propose necessary revisions for the Commission's consideration.

Low head dam structures have the potential for removal from the Roster if the low head dam no longer poses a risk to public health and safety. An owner may contact the Division and pursue removal from the Roster by the deconstruction and removal or modification of the low head dam. The Division shall consider the expectations of IC 14-27-7.3, the considerations identified in Section III above, before recommending the removal of a structure from the Roster.

Updated information will be maintained by the DNR. The DNR anticipates that it will maintain information for low head dams that includes construction permit applications received, permitted, denied, terminated, and an updated list of low head dams built, modified, or removed.

V. ADMINISTRATIVE REVIEW OF LISTING

The initial notice to owners of low head dams on the Roster under Indiana Code section 14-27-7.3-5(5) shall include the right to appeal the placement of a structure on the Roster through administrative review as provided under Indiana Code section 14-27-7.3-14.

A person may obtain administrative review from the Commission for the listing of a low head dam by filing a petition under IC 4-21.5-3-7 at the following address:

Division of Hearings
Natural Resources Commission
Indiana Government Center North
100 North Senate Avenue, Room N103
Indianapolis, IN 46204-2273**; or**
nrcaopa@nrc.in.gov

VI. HISTORY

~~The Commission approved this initial listing at a regular meeting conducted on May 18, 2021.~~
~~The approved information bulletin is published in the Indiana Register.~~
This Information Bulletin was first published in the Indiana Register on June 9, 2021 (20210609-IR-312210212NRA). On xx, 2021, the Commission approved this First Amendment making technical amendments.

[1]This owner may also be known as "Applied Energy Service" or "AES Indiana".
[2]This owner may also be known as "Applied Energy Service" or "AES Indiana".