

**EXECUTIVE COUNCIL OF IOWA LEASE
[IOWA DEPARTMENT OF NATURAL RESOURCES]**

The Executive Council of Iowa (Council), upon recommendation of the Iowa Department of Natural Resources (DNR), is authorized by Iowa Code Section 461A.25, to lease public real estate in accordance with a rental fee schedule established in 571 Iowa Administrative Code, Chapter 17.

Whereas Koch Fertilizer Wever, LLC (Tenant), a Delaware limited liability company, 3550 180th Street, Wever, IA 52658 has made a proper application for a new lease of real estate described as state-owned land. The Tenant's request has been reviewed by the DNR and it has determined that a lease subject to the conditions of this agreement will preserve the state's title and not adversely affect public use of the real estate.

Therefore, the Council leases to the Tenant the following described premises (referred to in these lease terms as "Leased Premises"):

A portion of the bed of the Mississippi River containing an area with 575 feet of frontage and 38.75 feet of depth located at Mississippi River Mile 389.6 in Section 34, Township 68 North, Range 3 West of the 5th P.M. Lee County, Iowa, as shown on the attached map marked "Exhibit A".

The Tenant, in consideration of the agreements below, leases from the State of Iowa the Leased Premises, according to the following conditions:

- 1) **TERM OF LEASE.** The term of this lease shall be from December 1, 2025 to November 30, 2030.
- 2) **RENTAL.** The DNR has determined the proposed use to be commercial. The Tenant shall pay annual rent to the DNR at its offices at the 6200 Park Ave., Ste 200, Des Moines, Iowa 50321 or at such place as it may direct, as follows: Annual rent shall be \$1,421.04 per year. For calendar year 2025, rent shall be prorated to \$118.42 ($\$1,421.04/12*1$) payable on the date this lease is executed. For calendar years 2026, 2027, 2028 and 2029 the annual rent shall be payable before January 1st of such calendar year. For calendar year 2030, annual rent shall be prorated to \$1,302.62 ($\$1,421.04/12*11$).
- 3) **TENANT'S USE OF THE PREMISES.** Consistent with the limitations described herein, the Tenant agrees during the term of this lease to use and occupy the leased premises only for the loading and unloading of commercial fertilizer. Other uses are prohibited unless authorized by a written amendment to this lease.
- 4) **STRUCTURES.**

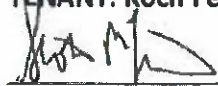
- a) Only those structures or fills existing on the Leased Premises at the time of execution of this lease are authorized under this lease. The following structures and fills exist on the premises at the time of execution of this lease:
 - (i) Sheet pile loading dock
 - (ii) Three mooring structures
 - b) The Tenant shall not materially modify, alter or add to those structures or fills identified herein without first obtaining permission from the DNR, which may require the issuance of a Sovereign Lands construction permit pursuant to Iowa Code section 461A.4 and 571 IAC chapter 13 depending on the extent of such modification or addition. The Tenant also agrees to obtain all necessary permits from other governmental agencies prior to performing any construction on the Leased Premises and comply with any zoning requirements that may apply to their adjacent property.
 - c) If the structures described herein deteriorate beyond repair or are otherwise destroyed, regardless of cause, the Tenant must reconstruct, repair or remove such structures, but only after consultation with and written approval by DNR, which may require the issuance of a Sovereign Lands construction permit pursuant to Iowa Code section 461A.4 and 571 IAC chapter 13 depending on the extent of such modification or addition.
 - d) General maintenance described in paragraph five (5) below does not constitute a material modification, alteration, or addition for purposes of subparagraphs b and c of this section.
- 5) **MAINTENANCE.** The structure(s) described above shall be maintained by the Tenant to keep in good working order. The Tenant shall be responsible to make repairs and adjustments to such structures, if required, to avoid any harm or injury to the public.
- 6) **TITLE TO PREMISES.** The Tenant agrees that title of the state of Iowa to the Leased Premises will not be affected by Tenant's occupancy; and any accretion to the Tenant's land resulting from fills, jetties or other structures placed and kept on state-owned real property under the authority of an appropriate permit and this lease shall be the property of the state of Iowa and that the Tenant shall have no accretion rights thereto.
- 7) **DEPARTMENT'S USE OF THE PREMISES.** Representatives of the DNR may enter upon the Leased Premises for the purposes of viewing alteration thereof by the Tenant, to inspect compliance with the terms of this lease, or to perform any duties of the DNR.
- 8) **PUBLIC USE OF THE PREMISES.** This lease shall not be construed to give the Tenant exclusive use of the Leased Premises. The right to enter upon the Leased Premises for any lawful purpose is hereby specifically reserved to the public of the state of Iowa. However,

this lease is not intended to deny the Tenant the right to exclude the public from using the Leased Premises, or portions thereof, in a manner that poses risk to the public health, safety or welfare by virtue of the Tenant's authorized use or that unreasonably interferes with the Tenant's authorized use.

- 9) **SURRENDER OF PREMISES AT END OF TERM.** At the expiration of the term of this lease and any renewal periods, the Tenant will yield possession of the Leased Premises to the DNR and will, within 90 days after the expiration of the term of this lease, remove all fill, equipment or structures and restore the affected area to an undisturbed condition.
- 10) **AMENDMENT, TRANSFER, ASSIGNMENT, AND SUBLEASE.** This lease may be amended only by written mutual consent of the parties. The Tenant shall not transfer or assign this lease and shall not sublet the Leased Premises or any part thereof except with prior written consent of the DNR.
- 11) **INDEMNIFICATION.** The Tenant agrees to jointly and severally indemnify and hold the State, its agencies, officials and employees harmless from all costs, expenses, losses, claims, damages, liabilities, settlements and judgments, including reasonable value of the time spent by the Attorney General's Office, and the costs and expenses and reasonable attorneys' fees of other counsel required to defend the State of Iowa or the DNR, related to or arising from its acts under this Lease. The Tenant shall be solely responsible and liable for any and all of its actions or inactions, as well of the actions or inactions of its subcontractors, employees, agents, licensees, and invitees, and results thereof, of any nature, which may occur within or upon the Leased Premises or in connection with this Lease.
- 12) **TERMINATION AND DEFAULT OF TENANT.** This lease shall terminate automatically, without notice, on the date specified in numbered Paragraph 1 above. However, the DNR may terminate this lease for material violation of any condition of this lease. Notice of such termination by the DNR shall be given in writing, and the Tenant shall have 30 days after service thereof to remove themselves from the Leased Premises unless a longer period is specified in the notice. If the Tenant, after termination, fails to remove any structure or fill placed on state land under authority of a DNR permit or this lease, the DNR, with assistance from the Attorney General, may bring an action for a court order compelling removal at the Tenant's expense.
- 13) **NOTICES.** All notices provided to be given, or which may be given, by either party to the other shall be deemed to have been fully given when made in writing and deposited in the United States mail, postage prepaid, addressed to the parties as provided above. The address to which the notices shall be mailed to either party may be changed by written notice given by either party to the other. Nothing in this paragraph shall preclude the giving of any notice by personal service.

- 14) CONSTRUCTION.** Words and phrases in this document shall be construed as in the singular or plural number and as masculine, feminine or neuter gender according to the context.
- 15) RENEWAL.** This lease may be renewed if it does not adversely affect a public interest. In the event renewal is desired, the Tenant agrees to apply for renewal of this lease at least 60 days prior to the expiration date.
- 16) SEVERABILITY.** If any provision of this lease is determined by a court of competent jurisdiction to be invalid or unenforceable, such determination shall not affect the validity or enforceability of any other part or provision of this lease.
- 17) COMPLIANCE WITH LAWS.** The Tenant shall comply with all applicable federal, state, and local laws, rules, ordinances, regulations and orders in its utilization of the Leased Premises.
- 18) CHOICE OF LAW AND FORUM.** The parties agree this lease shall be construed solely in accordance with the laws of the State of Iowa, and the parties further agree and acknowledge in the event there are any court proceedings arising out of or in any manner related to this lease such proceedings shall be brought exclusively in the Iowa District Court in and for Polk County with respect to which the parties fully consent to that court's jurisdiction and waive any objections of any sort to such proceedings going forth in that forum. This provision shall not be construed as waiving any immunity to suit or liability including without limitation sovereign immunity which may be available to the DNR or the State of Iowa.
- 19) ADDITIONAL PROVISIONS.** In addition to the provisions above, the Tenant shall operate the Facility and otherwise comply with the requirements described in the Conservation Plan for Koch Barge Loading Facility, Wever, Iowa submitted July 14, 2025, which is attached and incorporated by this reference as such operation or use relates to Tenant's use of the Leased Premises.
- 20) ENTIRE AGREEMENT.** This lease constitutes the entire agreement between DNR and the Tenant with respect to the use of the Leased Premises as described here, and the Tenant acknowledges that it is entering into the lease solely on the basis of the terms and conditions herein contained and not in reliance upon any representation, statement, inducement or promise, whether oral or written, not contained herein. This lease supersedes all prior contracts and agreements between DNR and the Tenant for the use of the Leased Premises.

TENANT: Koch Fertilizer Wever, LLC.



Scott McGinn, Executive Vice President and Manager

STATE OF Kansas, Sedgwick COUNTY:

This instrument was acknowledged before me on November 18, 2025 by Scott McGinn, as Executive Vice President and Manager for Koch Fertilizer Wever, LLC.



NOTARY PUBLIC FOR THE STATE OF Kansas



IOWA DEPARTMENT OF NATURAL RESOURCES:

Recommended for approval by majority vote of the Iowa Natural Resource Commission at its meeting on November 13, 2025, as reflected by the minutes.

Kayla Lyon

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Date: 2025.11.20 13:38:21 -06'00'

Kayla Lyon, Director

EXECUTIVE COUNCIL OF IOWA:

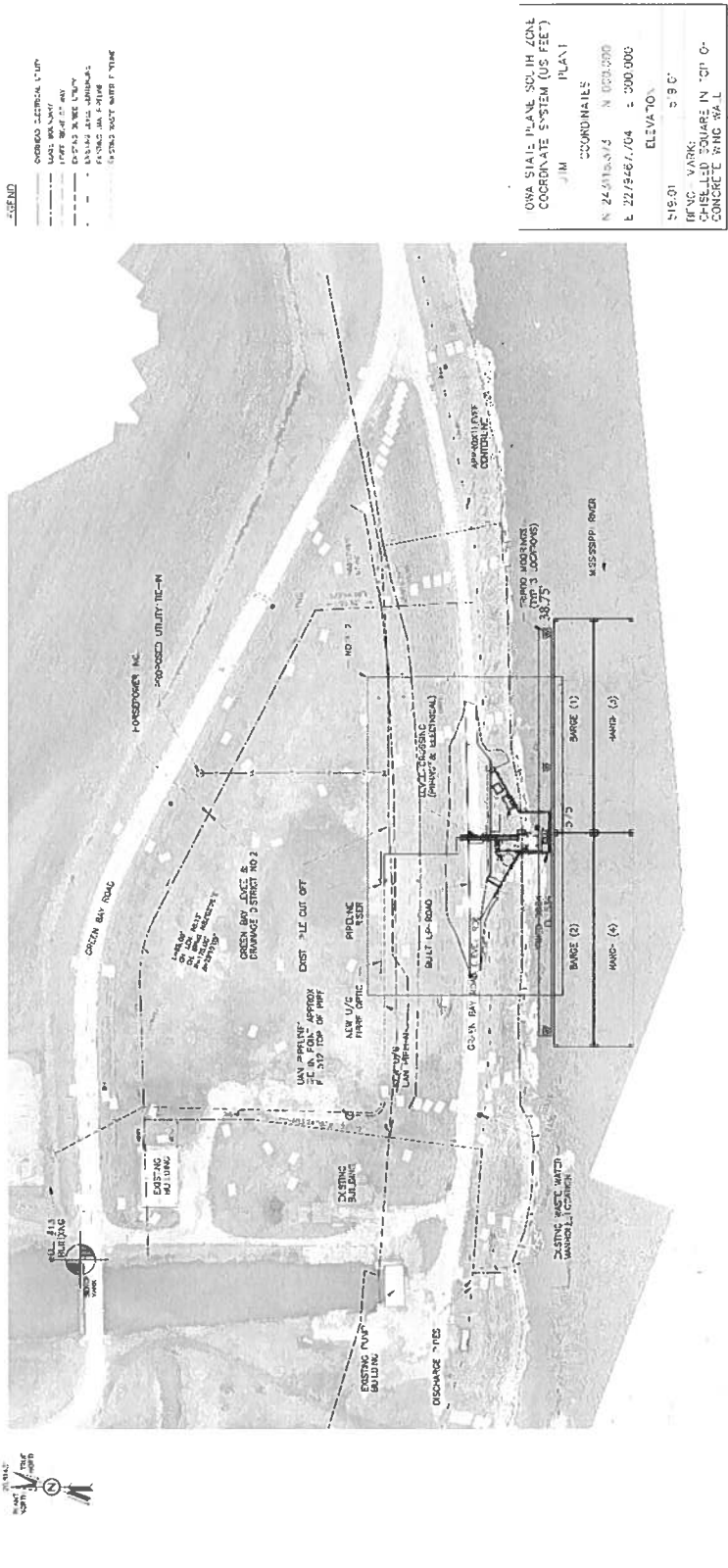
This lease is approved under the authority of a resolution adopted at an official meeting of the Executive Council of Iowa on December 1, 2025, as reflected by the minutes.



Kristi Onstot

Executive Secretary

Exhibit A



K KOCH™		FERTILIZER		UAN BARGE LOADING		SITE PLAN		UAN BARGE LOADING TERMINAL FACILITY		ENG 2/PL-008-175-00-00-0001-01	
NONE		NONE		NONE		NONE		NONE		A	

Conservation Plan for Koch Barge Loading Facility, Wever, Iowa

Developed by Koch Fertilizer Wever, LLC, July 2025

PROJECT APPLICANT: *Koch Fertilizer Wever, LLC*

PROJECT NAME: *Koch Barge Loading Facility*

COUNTY: *Lee County, Iowa*

AREA OF IMPACT (acreage): *0.11 acres*

1. A description of the impact likely to result from the proposed taking of the species, including but not limited to -

A) Identification of the **area to be affected** by the proposed action, include a detailed description including street address, map(s), and GIS shapefiles. Include an indication of ownership or control of affected property.

Parcel numbers: the barge loading facility will be constructed on portions of the following parcels:

- *021110343000080 – owner: Green Bay Levee & Drainage District No. 2 (GBLDD)*
- *021110343000090 – owner: GBLDD*
- *021110342000130 – owner: Colusa Elevator Company*
- *021110343000060 – owner: GBLDD*

The street address for the location is:

*2161 Green Bay Road
Wever, Iowa 52658*

The address for GBLDD is:

*PO Box 205
Wever, IA 52658*

Koch will transmit shapefiles to IDNR with this plan. Maps of the project location are included in Attachment A.

B) **Biological data** on the affected species including life history needs and habitat characteristics. Attach all biological survey reports.

Two Iowa listed freshwater mussel species were detected in the project area in a 2023 survey. The 2023 survey results and general ecology of these listed species are summarized below.

2023 Mussel Survey

*EcoAnalysts, Inc. conducted a freshwater mussel survey in the proposed project area in 2023. The survey area was approximately 39,600 m² (9.8 acres) and encompassed all proposed permanent structures (dock, mooring dolphins) as well as the surrounding area that could be affected by operation and maintenance of the facility. The survey included quantitative samples to determine mussel density and qualitative samples to assess species richness. Twenty-three species were collected in the survey, including the Iowa endangered Yellow Sandshell (*Lampsilis teres*) and Iowa threatened Butterfly (*Ellipsaria lineolata*). Average mussel density was 72.1 ±*

11.4 mussels / m² and catch per unit effort (CPUE) was 342 mussels / hr. Over 75% of the mussels collected in the survey were estimated to be ≤5 years old (EcoAnalysts, 2023a).

Yellow Sandshell (Iowa endangered)

The Yellow Sandshell is a relatively large, elongated mussel with a moderately thick and inflated shell. The species is sexually dimorphic; the ventral margin of the shell is evenly curved to the posterior point in males, but the marsupial region is somewhat inflated in females. The shell is smooth and unsculptured and is typically yellow. Young individuals may have green rays on the shell, but rays may be faint or absent on older individuals. Yellow Sandshells are found in medium to large rivers in mud, sand, or fine gravel. The species is bradytictic (long-term brooder) and glochidia are dispersed in conglutinates. Reported fish hosts include a variety of sunfish (Centrarchidae), gar (Lepisosteidae), and common carp (Cyprinus carpio) (Cummings and Mayer, 1992; Watters et al., 2009).

The Yellow Sandshell is widespread throughout much of the Mississippi River system. Its range includes the Mississippi River and tributaries in Minnesota and Wisconsin, south to Arkansas and Texas, and east to New York. It is listed as endangered in Iowa, Minnesota, Wisconsin, and Ohio (Cummings and Mayer, 1992; Watters et al., 2009). The Illinois Natural History Survey (INHS) mollusk collection contains 27 records of Yellow Sandshell across 14 counties in Iowa. Most records in Iowa are from the Mississippi River, with a few records in larger tributaries (e.g. Iowa River, Cedar River, Skunk River). Kelner (2023) lists the Yellow Sandshell as “rare” (“does not usually appear in sample collections, populations are small either naturally or have declined and may or may not be near extirpation”) in Mississippi River Pool 19. The species has been collected in several other survey locations in Pool 19, including live individuals along the Illinois bank near river mile (RM) 375 (EcoAnalysts, 2023b), the Iowa bank near RM 389.6 (EcoAnalysts, 2020), and the Iowa bank near RM 365.5 (Ecological Specialists, 2018), and fresh dead individuals on the Iowa bank near RM 369 (EcoAnalysts, 2021). Four live Yellow Sandshell were collected in the 2023 survey of the proposed project area, comprising 0.1% of unionids collected. Yellow Sandshell density in the project area was 0.04 individuals / m² (EcoAnalysts, 2023a).

Butterfly (Iowa threatened)

The Butterfly is a medium sized mussel with a thick, triangular shell. The species is sexually dimorphic; males are compressed and typically larger than females, which may become quite inflated. The shell is smooth and yellow or tan, with scattered green or brown rays forming blotches or chevrons. Butterfly mussels occur in large rivers in sand, gravel, and cobble substrate. The species is bradytictic (long-term brooder) and glochidia are dispersed in fragile conglutinates. Freshwater drum (Aplodinotus grunniens) is the primary fish host for this species; additional reported hosts include green sunfish (Lepomis cyanellus) and sauger (Sander canadensis) (Cummings and Mayer, 1992; Watters et al., 2009).

The Butterfly is widespread throughout the Mississippi River basin, but only locally abundant. Its range includes the Mississippi, Ohio, Cumberland, and Tennessee Rivers and extends from Minnesota and Wisconsin in the north to the Mobile River basin in the south, and east to Ohio and West Virginia. It is listed as threatened in Iowa, Illinois, and Minnesota and is endangered in Wisconsin and Ohio (Cummings and Mayer, 1992; Watters et al., 2009). The Illinois Natural History Survey (INHS) mollusk collection contains 42 records of Butterfly across 11 counties in Iowa. Nearly all records in Iowa are from the Mississippi River, with a few records in the Des Moines River. Kelner (2023) lists the Butterfly as “common” (“commonly taken in most samples; can make up a large portion of some samples”) in Mississippi River Pool 19. The species has

been collected in several other survey locations in Pool 19, including live individuals along the Iowa bank near RM 389.6 (EcoAnalysts, 2020) and the Iowa bank near RM 377.5 (Ecological Specialists, 2017). Thirteen (13) live Butterfly were collected in the 2023 survey of the proposed project area, comprising 0.2% of unionids collected. Butterfly density in the project area was 0.12 individuals / m² (EcoAnalysts, 2023a).

C) Description of project activities that will result in taking of an endangered or threatened species, including practices to be used, a timeline of proposed activities, and any permitting reviews, such as a USFWS biological opinion or USACE wetland review. Please consider all potential impacts such as noise, vibration, light, predator/prey alterations, habitat alterations, increased traffic, etc.

Koch submitted a Joint Permit Application (JPA) on October 4, 2023, and a revised application on February 2, 2024 for the UAN Barge Loading project. As documented in this application, wetland permits are not required for the project. USACE is reviewing the JPA for Regional General Permit 41 and Section 408 approval. Koch is working with IDNR Floodplains and Sovereign Lands for a Flood Plain Development Permit and Sovereign Lands Permit, respectively. Koch provided IDNR Sovereign Lands a revised Threatened and Endangered Species memorandum in a response to IDNR's "Request for Information" (RFI) on March 26, 2025.

Construction of the dock is anticipated to begin in October 2025. Construction of land features is expected to begin in late winter or early spring of 2026. Operation of the facility is expected to commence September 2026.

Impacts to mussels may occur during dock construction. BioSurvey Group began a mussel relocation effort on July 8, 2025, which is expected to last a minimum of 23 days. The relocation plan was approved by USFWS and IDNR, and ongoing communication will occur with these agencies during and following the relocation as necessary. This conservation plan is intended to mitigate permanent impacts to mussel species resulting from the dock construction.

Koch is obtaining a lease pursuant to IAC 571 – Chapter 17 to construct and operate a barge loading facility at the location described above. This conservation plan specifically addresses the leasing of state-owned land for the purpose of barge fleeting / loading, and not the construction of the loading facility. Construction of the loading facility and associated minimization/mitigation measures (including mussel relocation) are addressed in the facility Sovereign Lands Permit (application number 2023-2017).

IAC 571 – 17.10 establishes regulations for the use of public waters for barge fleeting, including "the installation of structures, physical site modification such as dredging, and operation of fleeting equipment and maneuvering of barges within the fleet." As indicated above, the initial construction of the facility, and associated conservation measures, are addressed under the Sovereign Lands Permit; this Conservation Plan presents conservation measures related to the ongoing operation and maintenance of the loading facility. Operation and maintenance activities will primarily include tows approaching and departing the facility and temporary mooring of barges during loading/unloading. Activities will occur periodically throughout the 5-year lease duration (an average of 5 loading events per month) and are anticipated to continue if / when the lease is renewed.

D) Explanation of the anticipated adverse effects on listed species; how will the applicant's proposed actions impact each of the species' life cycle stages.

Potential effects on listed species discussed below are those that may result from operation and maintenance of the loading facility under the Chapter 17 lease. Impacts from initial construction of the facility are not considered below.

Habitat loss in permanent structure footprint

The loading facility will include construction of permanent structures (dock and mooring dolphins), as described in Section 2A below. These structures will occupy instream habitat for the duration of the lease, rendering that habitat unavailable for mussels. Permanent structure footprints have been reduced to the extent possible to minimize unavailable habitat.

Tow traffic

The operation of large vessels, including barges and towboats, may have a negative effect on mussel resources. Miller et al. (1989) conducted a review of potential impacts of commercial traffic on freshwater mussels. Commonly reported physical effects of commercial vessels include increased turbulence, sediment suspension, and direct contact of propellers or barges with the river bottom.

*Passing tows may cause temporary changes in the magnitude and/or direction of flow velocity. Various studies synthesized in Miller et al. (1989) indicated that passing commercial vessels could generate velocity changes up to 0.59 m/s. A laboratory study was conducted to expose mussels to frequent and infrequent turbulence; mussels exposed to frequent turbulence (7 min every 0.5 hr) had reduced nitrogen excretion rates and metabolized stored carbohydrates rather than obtaining nutrition from the water column. However, infrequent turbulence did not appear to affect mussels (Miller et al., 1989). An additional study indicated that tissue condition index (TCI) in the Ebonyshell mussel (*Reginaia eburnus*) was lower in continuous exposure to high-velocity conditions than in continuous low-velocity or cyclic high-velocity conditions, suggesting that, while extended exposure to high velocities may be detrimental to mussel health, temporary increases in velocity may not have deleterious effect (Miller et al., 1989).*

Water with high levels of suspended solids and turbidity can negatively impact mussel populations. The magnitude of the impact resulting from sedimentation depends upon the duration of the exposure. Mussels are adapted to short term (acute) events such as spring floods. Long term or chronic increases in sedimentation can interfere in growth, feeding and reproduction (Stansbery, 1970), decreases in water volume pumped by the mussel (Loosanoff and Tommers, 1948) and increased time spent with their shells closed (Ellis, 1936). Unionids are filter feeders, drawing in food and oxygen by pumping river water through an incurrent siphon. Then, waste products are removed and pumped back into the environment through an excurrent siphon. Feeding and respiration becomes less efficient in highly turbid water, requiring extra energy to process the water (Aldridge et al., 1987). More energy will be spent on gill clearing and the production of pseudofeces to eliminate inedible material. Increases in total turbidity can also affect mussel filtration by diluting organic particle concentration with suspended inorganic materials, thus reducing the efficiency of filter-feeding and food assimilation (Bartell et al., 2003). The energy spent on managing excess sediment is allocated away from growth or reproduction (Brim Box and Mossa, 1999; Marking and Bills, 1979; Waters 1995; Bartell et al., 2003; USACE, 2004). Laboratory studies described in Miller et al. (1989) indicated that negative effects of sediment exposure were compounded when combined with increased turbulence.

Sedimentation can also result in alterations in the physical makeup of a mussel bed, reducing its value as a habitat. Examples of significant characteristics that can be altered include substrate composition, river bottom topography and aggrading and scouring of the river channel (Brim Box and Mossa, 1999). Chronic siltation will smother most riverine unionid species (Ellis, 1936; Watters, 1994).

Juvenile mussels may be particularly sensitive to sedimentation. The newly metamorphosed young can be smothered by the deposition of sediment. In addition, interstitial spaces between river substrate have been found to be critical habitat for young unionids. Increased sedimentation reduces juvenile habitat by clogging interstitial spaces (Brim Box and Mossa, 1999).

Freshwater mussels have extremely complicated reproductive cycles that include fish species, which act as hosts to the glochidia larvae stage. Towboat and barge activity can disturb fish. Fish may move away from an approaching tugboat (Keevin, unpubl. report cited in USFWS, 2008), and some fish species are less abundant in areas with heavy tugboat traffic (Gutreuter et al., 2006). Fish may avoid the path of a tugboat; however, they typically return within 25 min (Keevin, unpubl. report cited in USFWS, 2008). Gutreuter et al. (2006) indicated a reduction in sauger (a potential host fish for Butterfly) in areas with tugboat activity greater than 9 tows/day. Increased turbidity resulting from resuspended sediment could also deter fish hosts. Turbidity could also clog gills, hindering respiration and the ability of glochidia to attach to gills of host fish (Allen and Hardy, 1980).

Finally, direct contact of propellers or barges with the river bottom may directly affect mussels by crushing, burying, or dislodging them from the substrate. Host fish, particularly in larval or juvenile stages, may be affected by propeller strikes or river bottom contact, indirectly affecting the availability of host fish for mussel reproduction.

2) Measures the applicant will take to minimize and mitigate that impact and the funding that will be available to undertake those measures, including, but not limited to -

A) plans to minimize the area affected by the proposed action, the estimated number of individuals of each endangered or threatened species that will be taken, and the amount of habitat affected (please provide an estimate of area by habitat type for each species).

Plans to minimize the area affected include:

- The size of the dock structure and number of mooring dolphins have been reduced to the smallest size practicable to minimize the footprint of permanent structures in the river.*
- Construction will be land-based (from Green Bay (Levee) Road. Appropriate best management practices (BMPs) for erosion and sediment control will be implemented in accordance with the project Construction Stormwater Pollution Prevention Plan (SWPPP).*
- Additional operational and management measures will be taken to mitigate impacts during operations. These measures are described in the response to Question 2.B.*

The dock area specified in the Chapter 17 lease includes 18.59 m (61.00 ft) of frontage extending 11.81 m (38.75 ft) from shore at a flat pool elevation of 517.67 ft, resulting in a total dock area of

219.55 m² (2,363.22 ft²). Each of the three mooring dolphins will occupy approximately 4.02 m² (43.30 ft²). The total river bottom area occupied by permanent structures is approximately 231.61 m² (2,493.12 ft²). Based on the 2023 mussel survey conducted in the project area, approximately 10 Yellow Sandshell and 28 Butterfly may occur in the footprint of the permanent structures.

The size of the area affected by approaching or departing tows is difficult to estimate, as tows may not always follow the same path when approaching or departing the dock. The 2023 mussel survey area, which was designed to encompass most of these impacts, was 39,600 m². If tow traffic-related impacts occurred over this entire area, approximately 1,584 Yellow Sandshell and 4,752 Butterfly could be affected. However, average water depth in the 2023 survey was 4.98 m (16.34 ft). At this depth, clearance between tows and the river bottom may be sufficient to reduce tow traffic-related effects during approach or departure.

B) **Plans for management of the area** affected by the proposed action that will enable continued use of the area by endangered or threatened species by maintaining/re-establishing suitable habitat (for example, native species planting, invasive species control, use of other best management practices, restored hydrology, etc.).

The barge loading facility will have several operational and management controls/practices to minimize potential impacts to aquatic life:

- The facility will have an Emergency Response Plan, which includes spill response procedures. Koch provided this plan to Iowa Department of Natural Resources (IDNR) Sovereign Lands in a response to IDNR's RFI on March 26, 2025.
- The barge loading facility is expected to be seasonal in nature (typical operation is April – October).
- The dock will have a motor control center/operator control room that can observe barges. A qualified tankerman and a Koch operator will supervise pumping operations. The control center will be staffed 24-hours a day during loading operations.
- The dock will have a watertight containment pad directionally sloped to a sump to capture stormwater. The sump can be drained to the river (if the runoff is uncontaminated) or pumped out via truck. The drain is equipped with an extended spindle block valve accessible from the dock. Koch will continuously monitor the equipment on the dock for any visible leaks. Koch will visually inspect the stormwater in the sump for a sheen prior to discharge. If a sheen is observed, the containment sump will be pumped out via truck. When the terminal is not in operation the block valve will remain open to drain rainwater collected at the dock.
- At the end of the pipeline, at the dock, there are two relief valves, one primary and one backup to protect the system against overpressure, protecting the pipeline integrity. The relief valve discharges to a double wall tank, able to hold the volume required during the worst-case design case scenario. A pressure-relief tank will be located on the dock to contain UAN, if needed. The tank is not intended to permanently store product and is not part of normal operations, it will only be in use during an overpressure event. The tank is double-walled to contain 120% of the tank's volume. The tank is also equipped with appropriate level and leak detection systems to help operators monitor product flow to the

tank. The instruments will also automatically trigger a shutdown of the loading process when it detects any liquid. The loading system will be equipped with an emergency stop

- The loading system will be equipped with an emergency stop feature. Emergency shutdown buttons will be installed at the facility pump skid, at the terminal near the loading hoses, and inside the terminal control room to provide operators flexibility and quick reaction time.*
- The loading process is fully-automated with safety interlocks that enable an automatic shutdown of loading in a process upset such as an overpressure event or leak.*

C) Description of **all measures to be implemented to avoid, minimize, and mitigate** the effects of the proposed action on endangered or threatened species.

- Avoidance measures include working outside the species' habitat.*
- Minimization measures include timing work when species is less sensitive or reducing the project footprint.*
- Mitigation is additional beneficial actions that will be taken for the species such as needed research, conservation easements, propagation, habitat work, or recovery planning.*

Koch has proposed two mitigation measures to provide conservation benefits for freshwater mussels, including Iowa listed species.

- 1. Mussel propagation and stocking. Koch proposes providing funding for mussel propagation and stocking efforts in pool 19. The objective of releasing propagated mussels is to enhance mussel populations outside the Chapter 17 lease area, offsetting potential impacts to mussels within the lease area. The species to be propagated and method of release (e.g. release of inoculated fish, release of juvenile mussels, etc.) will be determined in coordination with IDNR and an existing propagation facility or hatchery (e.g. Genoa National Fish Hatchery). Associated activities may include collection of broodstock and placement of juvenile individuals at release. Koch proposes a one-time commitment of up to \$100,000 toward this effort.*
- 2. Conservation education and outreach. Mussel education and outreach activities provide an opportunity to educate the public about the role of mussels in river systems. Education and outreach activities may be conducted in partnership with other organizations, such as a county conservation board or local school district. Koch will also integrate mussel education and outreach into existing community-related events, as appropriate. Examples of potential activities could include developing outreach materials about mussel resources in the region and distributing them to the public/media outlets/etc., providing funding or other resources to partnering organizations in support of their educational programs, incorporating information regarding mussel relocation and stocking activities related to mitigation measure #1 into existing community outreach activities,, or other activities developed in coordination with IDNR or partner organizations. Koch proposes to make a one-time contribution of up to \$25,000 toward this conservation education and outreach initiative. This funding will be spent at the direction of IDNR to ensure that the resources are used strategically and effectively to achieve the greatest conservation benefits.*

D) Plans for **monitoring** the effects of the proposed actions on endangered or threatened species, such as species and habitat monitoring before and after construction.

The above mitigation measures are proposed in lieu of post-construction monitoring, as they may provide a greater conservation benefit to the mussel community.

E) **Adaptive management practices** that will be used to deal with changed or unforeseen circumstances that affect endangered or threatened species. Consider environmental variables such as flooding, drought, and species dynamics, as well as other catastrophes. Management practices should include contingencies and specific triggers. Note: Not foreseeing any changes does not qualify as an adaptive management plan.

Koch will implement its ERP as necessary to address unforeseen circumstances that require emergency response equipment. Koch also has a Flood Emergency Response Plan (FERP) that is used as needed for flood events.

4) Data and information to indicate that the proposed taking will not reduce the likelihood of the survival or recovery of the endangered or threatened species in the wild within the State of Iowa, the biotic community of which the species is a part, or the habitat essential to the species existence in Iowa.

Operation and maintenance of the Koch loading facility is not likely to reduce survival of Yellow Sandshell, Butterfly, or other native mussels within Iowa. Permanent structures will occupy approximately 231.61 m² of river bottom, in which approximately 10 Yellow Sandshell and 28 Butterfly may have lived. Tow traffic approaching and departing the dock is expected to be infrequent. It may affect these and other native mussel species in the vicinity of the permanent structures. However, laboratory studies suggest that infrequent turbulence and sediment resuspension may not be highly deleterious to mussels, and observed depths in the area suggest that extensive contact of tows/barges with the river bottom is unlikely to occur.


Additionally, the loading facility represents a very localized impact relative to the ranges of Yellow Sandshell and Butterfly. These species are both known from several other locations within Mississippi River Pool 19 and occur throughout the Upper Mississippi River; Kelner (2023) reports Yellow Sandshell as “rare” or “common” in all navigation pools from Pool 19 downstream to the Middle Mississippi River, as well as “rare” in many pools upstream to Pool 4. Similarly, Butterfly is rare, common, or even abundant from Mississippi River Pool 2 downstream to the Middle Mississippi River (Kelner, 2023). The potential loss of some individuals within the lease area is not likely to prevent ongoing survival and recruitment of either species in Pool 19 or the Mississippi River as a whole.

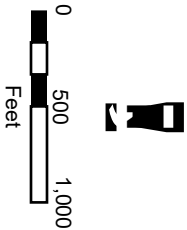
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 Construction Limits



Project Location Map
Barge Loading Project
Koch Fertilizer Wever, LLC
Wever, Iowa

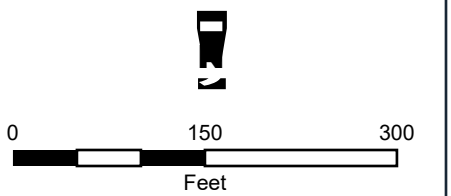
FIGURE 1



Barr Footer: ArcGISPro 3.3.2, 2025-02-21 14:48 File: I:\Projects\1556\10\4\Maps\Reports\Joint Application PCNBarge Loading Facility Impacts.aprx Layout: Figure 2 Project Impacts User: LRP



- Construction Limits
- Permanent Impact
- Temporary Impact
- Grading Limits
- Fixed Dock



Project Impacts
Barge Loading Project
Koch Fertilizer Wever, LLC
Wever, Iowa

FIGURE 2

