Water Quality Division
Montana Pollutant Discharge Elimination System (MPDES)
General Permit for Portable Suction Dredging
Fact Sheet

Permit Number:	MTG370000
Receiving Water:	Statewide Areas of Montana (except Indian reservations)
Facility Contact:	Applicants
Fact Sheet Date:	February 2024

I. Permit Information

A. Permit Status

DEQ proposes to reissue the MPDES *General Permit for Portable Suction Dredging* (General Permit), MTG370000. This General Permit applies to all areas of the state of Montana except for lands within the boundaries of Indian reservations. As of January 2024, there were 33 active permits. This is the seventh reissuance of the General Permit, and the most recent version of the General Permit was issued in 2019. This Fact Sheet identifies changes from the 2019-issued General Permit and explains legal requirements and technical rationale for the permit development process.

- May 21, 1987 — First issuance of the General Permit
- April 1, 2019 — 2019-issued permit became effective
- March 31, 2024 — 2019-issued permit expiration date
- April 1, 2024 — Proposed re-issuance of the General Permit

B. Proposed Permit Changes

- After review of current regulations, DEQ proposes to re-issue the 2019 permit without substantive changes.
- The process for submitting a Notice of Intent (application) is updated to require the use of DEQ's Fees Applications and Compliance Tracking System (FACTS) interface.

C. Description of Discharge / Permit Applicability

Portable suction dredging is a type of small-scale motorized placer mining which extracts naturally occurring gold and minerals from alluvial deposits in stream sand and gravels. Most of these activities are recreational and operated for a short time, typically weekends during summer months.

Portable suction dredges are floating mechanical devices that remove submerged streambed materials (substrate) by means of hydraulic suction. Water and substrate are vacuumed through an intake conduit with a diameter of four inches or less. The material is then processed through a sluice box, a riffled trough that traps gold and other dense materials settling out from flowing water. The remainder of the substrate falls off the end of the sluice box and is deposited back into the stream bottom. It is a common practice to excavate stream substrate down to bedrock because gold tends to work its way downward through gravels into cracks of the bedrock floor.

As discussed below in **Section I.G.**, all suction dredge operators are responsible for ensuring they comply with requirements of regulatory agencies outside of DEQ. This permit does not authorize highbanking or other activities different from the description of discharge. Highbanking involves removing and processing material from areas outside of the wetted stream channel.

D. Eligibility

1. **Allowed Operations/Discharges**
   a. The General Permit applies to portable recreational suction dredge operations that discharge into waters of the state.
   b. A portable suction dredge operated under the General Permit must have an intake diameter of four inches or less.
   c. Each authorization under the 2024-General Permit will be to a specific owner/operator and:
      1) The owner/operator must be present during the suction dredging activity.
      2) The operation must not extend beyond the timeframe/seasonal restriction identified the authorization.
      3) The operation is allowed only in the area specified in the authorization.

2. **Prohibited Operations/Discharges**
   a. Other suction dredge operations, such as commercial operations, or suction dredges with intake sizes greater than 4 inches in diameter, are not covered under the General Permit. These applicants must apply for an individual MPDES permit.
   b. Applicants unable to comply with effluent limits or other terms and conditions of the permit, water quality standards, or any additional requirements that DEQ determines are necessary.
   c. Discharge different in degree or nature from the sources or activities described in the General Permit.
   d. If an MPDES permit or authorization for the same operation has been previously denied or revoked.
   e. The point source cannot be in an area of unique ecological or recreational significance, as determined by Montana stream classifications, impacts on fishery resources, local conditions at proposed discharge sites, designations of wilderness areas, or designations of wild and scenic rivers.
   f. Discharges to receiving waters classified as A-1 or A-Closed (these receiving waters are not allowed increasing turbidity).
   g. Excavation, collection, or removal of material from streambanks, unstable slopes, or any slope that has potential to deliver sediment to the active stream channel.
   h. Chemicals used to recover metals, minerals, or gemstones.
   i. Suction dredging operations that dredge more than 50,000 cubic yards of material per year.
   j. Highbanking or other activities different from the description of discharge.

E. Application Process

1. **Requirements for Authorization – Notice of Intent Package**
   Planned suction dredging operations must submit a Notice of Intent (NOI) package to DEQ. A complete NOI package requires applicants to address the following:
   a. *NOI-37 Form:* Applicants are required to use DEQ's online Fees Application and Compliance Tracking System (FACTS) to submit portable suction dredging NOIs and the items b through d below. FACTS is located on DEQ's website at http://deq.mt.gov/water/assistance. A hard copy of the updated NOI form for portable suction dredging operations is available from DEQ upon request and may be submitted in cases where the use of the FACTS interface is not feasible.
   b. *Sage Grouse Habitat Executive Order No. 12-2015:* If the operation is in sage grouse core, general, or connectivity habitat, the applicant must include a consultation letter from the Sage Grouse Habitat Conservation Program.
   c. *Fisheries:* The applicant must contact the Montana Department of Fish, Wildlife and Parks (FWP) to ensure fisheries will be protected at the proposed operation location. In the NOI, the applicant must include the name of the FWP person contacted as well as any seasonal restriction.
   d. *Required Fee:* Fees are determined by type of residency and NOI-37 status:

- **Fees for Residents of Montana:**
  New Application: $50
  Renewal Application: $25
  Major Modification: $25
- **Fees for Nonresidents:**
  New Application: $200
  Renewal Application: $100
  Major Modification: $100

2. **New Authorization Under the 2024 General Permit**
   The process for obtaining first time coverage under the General Permit is as follows:
   a. At least 30 days prior to operation, applicants must submit a complete NOI Package to DEQ.
   b. DEQ will review the NOI package for completeness.
      - If there are no deficiencies during the review, DEQ will issue an authorization letter.
      - If the NOI package is deficient, DEQ will notify the applicant of required information.

3. **Continuing Authorization Under the 2024 General Permit**
   Continued coverage applies to active permittees currently covered under the 2019-issued General Permit. DEQ will reissue authorization to existing permittees through the process outlined below:
   a. Applicants with **current** general permit authorization (2019-issued General Permit) must submit a complete renewal request (NOI package) for continued coverage. The NOI package must be submitted **within 30 days of the effective date of the 2024-issued General Permit**.
   b. DEQ will review the NOI package for completeness.
      - If deficiencies are not found during the review, DEQ will issue an authorization letter.
      - If the NOI package is deficient, DEQ will notify the applicant of required information.

4. **Terminating Authorization**
   The options for terminating permit coverage are listed below:
   a. Permit authorizations may be terminated if DEQ receives notice from the permittee that the suction dredging activity will not be continued.
      - This notice must be signed and certified according to the signatory requirements in **Part III. N** of the General Permit.
      - All applicable fees must be paid.
   b. Alternatively, permittees may complete and submit a Request for Termination (RFT) form to DEQ.
      - The RFT form is available at http://deq.mt.gov/water/assistance
      - Annual fees accrue until DEQ receives a Request For Termination.
   c. Current operators may request to be excluded from coverage under this General Permit by applying for and obtaining an individual MPDES permit.
      - If an individual MPDES permit is issued, coverage under this General Permit will be terminated on the effective date of the final individual MPDES permit.

5. **Transferring Permit Coverage**
   DEQ may transfer authorization to a new owner or operator under the General Permit.
   - The current owner and the new owner must submit a completed Permit Transfer Notification form available at http://deq.mt.gov/water/assistance

6. **Denied Authorizations**
   If a permittee is denied authorization to operate under the General Permit, DEQ will proceed to process the request for authorization through the individual MPDES permit requirements unless the applicant withdraws the NOI.

F. Other Agency Requirements

DEQ is not the only authorizing agency permittees are accountable to. Portable suction dredge operators are also responsible to address the following:

1. **Local Conservation Districts (310 Permit)**
   The Montana Natural Streambed and Land Preservation Act (the 310 Law) requires a 310 Permit. Permittees must contact the conservation district with jurisdiction in the area where dredging is planned and apply for a permit.

2. **U.S. Corps of Engineers (Section 404/Section 10 Permits)**

Section 404 of the Clean Water Act requires a 404 Permit before dredged or fill material may be discharged into waters of the United States. A Section 10 Permit is required for dredging in sections of the Missouri, Yellowstone, or Kootenai Rivers.

3. **U.S. Forest Service (36 CFR 228 Subpart A - Locatable Minerals)**
   For dredging activities on U.S. Forest Service land, the operator must submit a notice of intent to operate to the District Ranger of the area where the planned activity will be conducted. The District Ranger will determine whether a Plan of Operation is required.

4. **U.S. Bureau of Land Management (BLM) (43 CFR 3809)**
   If using a suction dredge on BLM land, the operator must contact BLM in advance to determine whether it is necessary to submit a notice or plan, or if the activities constitute casual use. Casual use is typically considered "resulting in no or negligible disturbance".

5. **Montana's Department of Natural Resources and Conservation (DNRC)**
   If dredging on State School Trust Land, the operator must have an approved "State of Montana Metalliferous Mineral or Gem Mining Releasee," which requires a performance bond. The operator is required to submit a detailed mineral exploration and/or operating plan to the Minerals Management Bureau (MMB) for environmental review, for any mineral extraction proposed within (1) low water marks on waterways considered navigable by DNRC, and/or (2) waters that flow through or bound state school trust land.

6. **U.S. Fish and Wildlife Service (FWS)**
   FWS is responsible for implementing the Endangered Species Act. Suction dredgers must avoid "illegal take" of federally threatened species, such as bull trout. Illegal take includes actions that have potential to adversely affect bull trout or their designated critical habitat

7. **Other State Agencies**
   If dredging on non-navigable waters located in areas owned by other state agencies, the operator must first contact the agency involved regarding their requirements.

8. **Montana DEQ**
   If an applicant complies with the 2024 General Permit for Portable Suction Dredging authorization requirements for applicable suction dredges, they are not typically required to obtain any additional DEQ permits. This includes the Water Protection Bureau's Section 318 (Turbidity) or the Small Miners Exclusion Statement from the Hard Rock Mining Program for recreational suction dredging activities.

9. **Montana Fish Wildlife and Parks (FWP)**
   Water based equipment used in the waters of Montana requires an Aquatic Invasive Species (AIS) inspection if it is being transported into the state or is transported west over the Continental Divide. All equipment must be clean, drained, and dry. Dredge equipment can receive an inspection at any watercraft inspection stations or the AIS program can be contacted to coordinate an inspection. Visit http://fwp.mt.gov/conservation/aquatic-invasive-species or call (406)444-2440.

II. Receiving Waters and Applicable Standards

A. Applicable Standards

Each waterbody classification has numeric and narrative water quality standards designed to ensure beneficial uses are protected. Discharges to state waters are subject to specific water quality standards.

Water quality standards apply to all state waters, meaning a body of water, irrigation system, or drainage system either on the surface or underground. State waters include ephemeral and intermittent drainages, isolated ponds, lakes and other water bodies.

Discharges into all classified waters are not allowed to cause an increase above naturally occurring concentrations of sediment or suspended sediment, settleable solids, oils, or floating solids, which are likely to create a nuisance or render the waters harmful to public health, recreation, safety, welfare, livestock, wild

animals, birds, fish, or other wildlife. DEQ has determined that discharges that comply with applicable turbidity limits (**Section II.C** below) will not violate the narrative sediment standard.

B. Pollutants of Concern

Pollutants of Concern are identified below:

- *Sediment and Turbidity:* Because the discharge consists of naturally occurring stream bed material, the primary pollutants of concern are sediment mobilized by operations and turbidity. High levels of these pollutants can have direct and indirect effects on fish and other aquatic life.
- *Oil and grease and fuel:* If the operating dredge has leaking seals or if fuel is spilled during refilling, these pollutants can be released into the receiving water.
- *Mercury:* Used as an additive in historic mining practices, mercury in historically contaminated stream sediments can be remobilized during suction dredging operations and result in significant exposure for aquatic species, wildlife, and humans.

C. Receiving Waters Covered by the General Permit

The General permit allows portable suction dredging in the following state waters:

- Waters classified as B-1 and C-1 allow for an increase of 5 nephelometric turbidity units (NTUs) above naturally occurring turbidity.
- Waters classified as B-2, B-3, C-2, and C-3 allow for an increase of 10 NTUs above naturally occurring turbidity.
- Waters classified as I allow for an increase in naturally occurring turbidity when it is not likely to create a nuisance or render waters harmful to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife.

D. Receiving Waters Not Covered by the General Permit

The General Permit prohibits portable suction dredging in the following state waters:

- Waters classified as A-Closed because no increase above naturally occurring turbidity is allowed.
- Waters classified as A-1 because no increase above naturally occurring turbidity or suspended sediment is allowed.

E. Mixing Zone

The mixing zone is the defined area where the discharge from the sluice box mixes with the stream/receiving water. Water quality standards may be exceeded inside the mixing zone. A standard mixing zone's defined length is 10 stream widths downstream of the suction dredge activity. The stream width is the distance from one side of the wetted active stream channel to the other. Water quality standards must not be exceeded outside of the mixing zone.

III. Effluent Limits and Special Conditions

As a minimum, waste must receive treatment equal to the best practicable control technology currently available and applicable surface water quality standards. Pollutant control is established through technology-based effluent limits and water quality-based effluent limits.

A. Technology Based Effluent Limits

Technology-based effluent limits (TBELs) represent the minimum level of treatment or control and are based on implementing available treatment technologies to reduce pollutants.

1. **Effluent Limitation Guidelines (ELGs):**
   Dischargers other than publicly-owned treatment works are held to effluent limitation guidelines (ELGs), which are defined in 40 CFR 440 Subpart M. ELGs are national regulatory standards based on the performance of treatment and control technologies. Current ELGs address the gold placer mine subcategory, which includes large scale operations that dredge more than 50,000 cubic yards of material per year. ELGs do not apply to portable suction dredging operations because coverage under this General Permit prohibits operations which dredge more than 50,000 cubic yards per year.

2. **Best Management Practices (BMPs):**
Non-numeric effluent limits are practice-based effluent limits which require implementation of control measures through Best Management Practices (BMPs). A BMP is an enforceable condition of the permit developed to protect water quality. DEQ used Best Professional Judgement to develop BMPs as non-numeric effluent limits. DEQ has determined that the BMPs listed below are appropriate treatment methods for suction dredging activities to protect water quality when properly implemented.

BMPs were re-evaluated and restructured in the 2019 General Permit and are maintained in this renewal. As part of BMP development, DEQ considered past concerns expressed by stakeholders. For example, limiting the operation location will prevent damage to Montana Department of Transportation structures as well as limit remobilization of mercury and cyanide from preexisting tailings piles. DEQ also addressed the concern of group outings of suction dredging recreationists by requiring a minimal distance between operation, and the potential to transfer aquatic invasive species between streams.

a. Operation of only one suction dredge per permittee is allowed at a time.
- The permittee must be present when another person is operating the equipment.

b. Operation Locations
- Operators are not allowed to excavate, collect, or remove material from stream banks, unstable slopes, or any slope that has the potential to deliver sediment to the active stream channel through runoff.
- Suction dredging is only allowed within the existing wetted perimeter (waterline) of the active stream channel.
- Keep a distance of 500 feet or greater between operations. Do not overlap turbidity plumes.
- It is prohibited to discharge sluice tailings from outside to the wetted steam channel to any location inside the active stream channel.

c. General Operation Practices
- Holes must be backfilled and sluice material spread before moving to a new work site.
- Motorized equipment or winches must not be used to move boulders, logs, or other natural obstructions. Any obstructions removed by hand must be returned to its original position.
- Exercise reasonable care while moving the equipment to a new location.
- Exercise reasonable care to reduce the volume of effluent by limiting the operational speed.
- Maintain equipment to prevent release of oil and grease or fuels; keep equipment surfaces free of oils and grease; check equipment for fuel and oil leaks daily.

d. Stream banks must not be mined or disturbed
- Undercutting of stream banks or any activity that would cause caving or erosion is not allowed.
- Sluice discharge must not be directed into the stream bank or cause the stream channel to widen.
- Boulders, rooted vegetation, and embedded woody plants must not be disturbed or removed from the stream banks.

e. The nature of the stream channel must be preserved
- Damming, diversions, or concentrating streamflow is prohibited.
- Wheeled or tracked equipment must not be used in-stream.
- Holes must be backfilled, and tailings spread so they conform to the natural contour of their removal site.

f. Pollutants must not be released into the receiving waters
- Mercury collected in the sluice box must be removed and properly disposed of.
- Turbidity/Suspended Sediment: Avoid removing or dredging concentrated silt and clay materials.
- Discharge of oil, grease, and fuel is prohibited: Do not refuel over open water. Waste oil or other cleanup materials contaminated with petroleum products must be properly disposed of off-site.
- Using chemical agents to improve mineral processing and/or metal extraction is prohibited.

g. Equipment must not carry or contain invasive species

- Remove sediment, vegetation, and aquatic organisms from equipment before leaving the stream.
- Do not transfer water from one waterbody into another. Drain equipment in places that can hold standing water.
- All equipment must be clean, drained, and dry.

h. Dredging activities must not interfere with fish spawning or passage

- Dredging is prohibited where fish eggs are present.
- If spawning fish or fish eggs are observed, stop the operation immediately and relocate.
- Fish must be able to swim past the operation at any stage.

B. Water Quality Based Effluent Limits

Permits are required to include water quality-based limits that achieve water quality standards, including narrative criteria. Turbidity, suspended sediment, oil and grease, and other petroleum products such as gasoline are potential pollutants commonly associated with suction dredging operations that have potential for impacting water quality standards. The general permit requires best management practices, which will be protective of water quality when implemented properly.

DEQ determined that applicants must meet the following effluent limits:

1. Turbidity - No visible increase in turbidity is allowed 10 stream widths downstream from the suction dredge operation.
2. Sediment - Discharges that comply with the applicable turbidity limitation are assumed to also comply with the narrative water quality standard for sediment.
3. Oil & Grease - No visible oil film is allowed on the receiving stream.

C. Nondegradation

DEQ has determined that recreational suction dredging operations will result in nonsignificant changes in water quality because:

1. There is low potential for harm to human health or the environment.
2. The quantity and strength of the pollutant (turbidity and suspended sediment) is low and controlled in the authorization letter and permit.
3. Suction dredge activities are generally short-term.
4. Best management practices prevent turbidity and suspended sediment generated from suction dredging and activities from being persistent in the environment.

D. Special Conditions

Special conditions in MPDES permits supplement effluent limits and require activities designed to reduce the potential for discharge of pollutants. Special conditions also serve the purpose of collecting information that could be used to determine future permit requirements.

1. A copy of the authorization letter and the General Permit must be accessible from the operation.
2. The operation activity is only authorized at the location(s) and time period identified in the authorization letter.
3. Permittees must maintain daily monitoring records **(Section IV.B.** below**)** of the suction dredging activity and keep the records accessible at all times.

IV. Monitoring and Reporting Requirements

The permittee is responsible for conducting the following monitoring, recordkeeping, and reporting during the permit authorization:

A. Self-Monitoring

The permittee must visually check the stream for an increase in turbidity.

- Monitoring will occur at the end of the mixing zone, which is 10 stream widths downstream of the suction dredge activity. The suction dredging location determines the stream width.

- The visual check must be conducted after the first half-hour of continuous operation to determine if a violation is occurring as defined under the effluent limits:
  - if there is an obvious change in the turbidity from the suction dredging activity
  - if there is a change in the stream width (due to erosion) at the dredge location
  - if a suspected spill or leak has occurred.
- If an increase in turbidity or suspended sediment is observed at the end of the mixing zone, the operator must decrease or cease operation immediately until the turbidity is in compliance with the terms of this General Permit.
- If a spill or leak occurs, the operator must cease operating immediately until the source of the spill or leak is eliminated.

B. Record Keeping

The permittee must maintain a daily record on the Suction Dredging Log Form (**Attachment I)** or equivalent, for each day of operation in each permitted stream location. Required information includes:

- Operation location
- The date and time range (start time/stop time) of each individual operation
- Visual observation of the turbidity in the receiving water 10 stream widths downstream of the suction dredge
- Visual oil film presence or absence noted
- Any noted changes in the suction dredging operation or appearance of receiving stream
- The name of the observer
- The operator must acknowledge that Best Management Practices were implemented during each operation.

The permittee must maintain the daily records for a period of at least three years and make these records available to DEQ upon request.

The daily records are considered a method for the permittee to ensure good operating practices as well as to demonstrate compliance with the effluent limits. The permittee is required to submit the Log to DEQ at the end of every operating season, and no later than January 28th following the end of each calendar year.

V. Information Sources

Federal Water Pollution Control Act (Clean Water Act), 33 U.S.C. §§ 1251-1387, October 18, 1972, as amended 1973-1983, 1987, 1988, 1990-1992, 1994, 1995 and 1996

Montana Code Annotated (MCA), Title 75-5-101, *et seq*., "Montana Water Quality Act,".

Administrative Rules of Montana Title 17 Chapter 30 - Water Quality
Subchapter 2 - *Water Quality Permit and Application Fees.*
Subchapter 5 - *Mixing Zones in Surface and Ground Water*.
Subchapter 6 - *Montana Surface Water Quality Standards and Procedures*.
Subchapter 7- *Nondegradation of Water Quality*
Subchapter 12 - *MPDES Standards.*
Subchapter 13 - *MPDES Permits*.

Alpers, Charles N. and Humerlach, Michael P. *Mercury Contamination from Historic Gold Mining in California.* USGS Fact Sheet FS-061-00. May 2000.

Harvey, Bret C. and Lisle, Thomas E. *Effects of Suction Dredging on Streams: A Review and an Evaluation Strategy.* Fisheries. Vol. 23, No. 8. August 1998.

Maiylo, Susan J, Moreau, Joe K. *Suction Dredging and High Banking Operations for Notices of Intent within the Rogue River-Siskiyou National Forest Biological Assessment.* February 2015.

North, Philip A. *A review of the Regulations and Literature Regarding the Environmental Impacts of Suction Gold Dredges.* U.S. EPA Region 10 Alaska Operations Office. April 1993.

Oregon Chapter American Fisheries Society. *Suction Dredge Mining Impacts on Oregon Fishes, Aquatic Habitats, and Human Health..* January 2017.

Thomas. V.G. 1985. Experimentally Determined Impacts of a Small, Suction Gold dredge on a Montana Stream. North American Journal of Fisheries Management. 5: 480-488.

US EPA. *Fact Sheet: Alaskan Small Suction Dredge Miners*. December 2001.

US EPA. *Impact of suction dredging on water quality, benthic habitat, and biota in the Fortymile River, Resurrection Creek and Chatanika River*, Alaska. 1999.

US EPA NPDES *Permit Writers' Manual*, EPA 833-B-96-003, September 2010.

Washington Department of Fish and Wildlife. June 2018. *Gold and Fish Rules for Mineral Prospecting and Placer Mining.*

Yeend, Warren, Shawe, Daniel R., Wier, Kenneth L. 1989. *Gold in Placer Deposits.* US Geological Survey Bulletin. 1857-G.

Attachment I – Portable Suction Dredging Operations Log

Permit Number:	Month, Year:
Name of Stream/Stream Segment Worked	

Operation Date (dd/mm/yy)	Actual Operation START – STOP Time (a.m./p.m.)	Total Operation Time (hrs.)	* Visible Turbidity Increase? (Yes/No)	**Visible Oil Film? (Yes/No)	Observer Name or Initials	BMPs Properly Implemented (Certify by Initialing)	Additional Observations*

*If a visible increase in turbidity is observed outside the mixing zone, operation must decrease or cease. Note actions taken to get into compliance. **If visible oil film noted, operator should note actions taken to prevent further release of oil & grease.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: _____ **Address**_____

Signature: _____ **Telephone** _____