

DEPARTMENT OF ENVIRONMENTAL QUALITY
Environmental Assessment

PERMITTING AND COMPLIANCE DIVISION
Water Protection Bureau

Name of Project: Suction Dredge General Permit (SDGP)

Type of Project: Recreational suction dredges float on the water surface and pump stream water and bed material through a sluice box. Recreational suction dredges have an intake of four (4) inches or less in diameter. Gold or other minerals may be recovered from the sluice box. The discharge consists of stream water and bed material; no material or chemicals are added to the discharge water.

Location of Project: Statewide (except A-1 and A-Closed waterbodies)

City/Town: Statewide

County: Statewide

Description of Project: Reissue the statewide SDGP (MTG370000). Owners/operators of recreational portable suction dredges will be required to apply for authorization under the renewed SDGP. The renewed permit will control recreational suction dredge wastewater containing turbidity.

Agency Action and Applicable Regulations: The proposed action is to reissue the SDGP. The applicable rules and regulations include:

- Montana Water Quality Act 75-5-101 , *et seq.*
- Administrative Rules of Montana (ARM) Chapter 17:
 - Subchapter 2 – 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 and 13 - Montana Pollution Discharge Elimination System

Summary of Issues: Two potential issues with recreational portable suction dredging have been identified:

(1) *Endangered Fish Spawning Habitat:* there is concern that portable suction dredging could harm endangered fish species, including bull trout and cutthroat trout, if conducted during the time of the year that the fish are spawning or incubating. The Department determined that the 310 Permitting process, which is administered by the local Conservation Districts in conjunction with Montana Fish, Wildlife and Parks (FWP) biologists, is an effective mechanism to ensure that endangered fish species are not harmed. The Department copies both the Conservation District and FWP fishery biologist for any General Permit authorizations. In addition, the Department may limit the time period allowed for suction dredging, based on available information on spawning habitat, including use of the FWP-generated list of recommended stream closures, which is based on the species expected present in different streambed areas.

(2) *Potential mobilization of mercury:* previous use of mercury (quicksilver) in the mining industry resulted in residual mercury contamination downstream from many historic mining operations. There is presently a concern that if mercury is present in the area that is being suction dredged, the disturbance could mobilize it as methylmercury, a very bioaccumulative toxin. There is, however, counter evidence that suction dredging could work to remove mercury from the environment and may actually be beneficial

in the long run. Several agencies, including the United States Geological Survey (USGS) and State of California, are currently conducting studies of this issue. The Department will review findings and recommendations that come out of any official studies for future permit renewals.

Benefits and Purpose of Action: Wastewater discharged at recreational suction dredge operations that meet water quality standards for turbidity will protect water quality and beneficial uses of state waters.

Affected Environment & Impacts of the Proposed Project:

Y = Impacts may occur (explain under Potential Impacts). *Include frequency, duration (long or short term), magnitude, and context for any significant impacts identified. Reference other permit analyses when appropriate (ex: statement of basis). Address significant impacts related to substantive issues and concerns. Identify reasonable feasible mitigation measures (before and after) where significant impacts cannot be avoided and note any irreversible or irretrievable impacts. Include background information on affected environment if necessary to discussion.*

N = Not present or No Impact will likely occur. *Use negative declarations where appropriate (wetlands, T&E, Cultural Resources).*

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE: Are soils present which are fragile, erosive, susceptible to compaction, or unstable? Are there unusual or unstable geologic features? Are there special reclamation considerations?	<p>[N] Best Management Practices (BMPs) in the permit will control potential soil instability of stream banks at suction dredge operations. The relevant BMPs are listed below:</p> <ol style="list-style-type: none"> 1. Stream banks must not be mined or disturbed. No undercutting of stream banks that would cause caving or erosion of the banks is allowed. Dredging is only permitted within the existing wetted perimeter (waterline) in the active stream channel. 2. Motorized winches or other motorized equipment must not be used to move boulders, logs or other natural obstructions. 3. No wheeled or tracked equipment may be used in-stream while dredging. 4. No damming or diversions are authorized. 5. Dredging of concentrated silt and clay should be avoided. The permittee must use reasonable care to avoid dredging silt and clay materials that would result in a significant increase in turbidity and suspended sediment. Reasonable care includes moving the dredge to a new location or reducing the volume of effluent discharge by limiting operation speed of the suction dredge. 6. The maximum inside diameter of the suction dredge intake is four (4) inches. 7. The permittee is allowed to discharge wastewater from a recreational suction dredge only at the location(s) specified in the authorization letter. A copy of the authorization letter must be kept with the SDGP.
2. WATER QUALITY, QUANTITY AND DISTRIBUTION: Are important surface or groundwater resources present? Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?	<p>[N] <i>Turbidity and TSS:</i> Under this general permit, applicants operating recreational suction dredges are granted authorization to discharge wastewater from recreational suction dredges to surface waters of the state. If an operator notices an increase in turbidity 10 stream widths downstream from the operating suction dredge, a violation of the water quality standard probably occurs (there is assumed to be an increase of 5 or 10 NTUs in the receiving stream) and the operator must discontinue operations. Subsequent suction dredge activities may continue as long as there is no increase in of turbidity in the receiving stream 10 stream widths downstream from the operating suction dredge.</p>
3. AIR QUALITY: Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?	<p>[N] There may be short term combustion odors associated with the recreational suction dredge engine.</p>

4. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be significantly impacted? Are any rare plants or cover types present?	[N]
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds or fish?	<p>[N] The Montana Department of Fish, Wildlife and Parks (FWP) classifies Montana streams according to their resource, habitat, and sport fishing value. The list of streams provides the guideline for each stream based on the FWP stream classification, spawning and incubation periods for fish species that are present.</p> <p>Owners/operators of suction dredges are required to obtain a 310 Permit, whereby the Conservation Districts, in addition to FWP Fishery Biologists, work together to review each operation and to impose any necessary restrictions and may base their decision in part on the FWP stream classification list. In addition, the Department may limit the time period allowed for suction dredging in the SDGP authorization.</p>
6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES: Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Species of special concern?	[N] See above. The Department has included a reminder in the General Permit for any authorized suction dredgers to avoid any impact on endangered species and the requirements of the Endangered Species Act (ESA).
7. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any historical, archaeological or paleontological resources present?	[N] The SDGP prohibits operating in the stream banks or undercutting stream banks in such a manner to cause caving or erosion of the banks. In addition, no machinery other than the floating suction dredge is allowed to be used. Since suction dredging occurs in the water and not on land, no historical or archaeological sites are expected to be impacted.
8. AESTHETICS: Is the project on a prominent topographic feature? Will it be visible from populated or scenic areas? Will there be excessive noise or light?	[N] Suction dredge activities usually occur on national forest land or other public land away from populated areas. There could be noise for a short time period associated with any construction project.
9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY: Will the project use resources that are limited in the area? Are there other activities nearby that will affect the project? Will new or upgraded powerline or other energy source be needed)	[N]
10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES: Are there other activities nearby that will affect the project?	[N] No significant impacts on other environmental resources have been identified.
IMPACTS ON THE HUMAN ENVIRONMENT	
11. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?	[N]
12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?	[N]

13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs? If so, estimated number.	[N]
14. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project create or eliminate tax revenue?	[N]
15. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc.) be needed?	[N]
16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?	[N] Suction dredge permittees are required to obtain a 310 permit from the local conservation district. Other state and federal agencies require various permits or leases if the suction dredging occurs on the land under their jurisdiction.
17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES: Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?	[N]
18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING: Will the project add to the population and require additional housing?	[N]
19. SOCIAL STRUCTURES AND MORES: Is some disruption of native or traditional lifestyles or communities possible?	[N]
20. CULTURAL UNIQUENESS AND DIVERSITY: Will the action cause a shift in some unique quality of the area?	[N]
21. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:	[N]
22(a). PRIVATE PROPERTY IMPACTS: Are we regulating the use of private property under a regulatory statute adopted pursuant to the police power of the state? (Property management, grants of financial assistance, and the exercise of the power of eminent domain are not within this category.) If not, no further analysis is required.	[NA]

22(b). PRIVATE PROPERTY IMPACTS: Is the agency proposing to deny the application or condition the approval in a way that restricts the use of the regulated person's private property? If not, no further analysis is required.	[NA]
22(c). PRIVATE PROPERTY IMPACTS: If the answer to 21(b) is affirmative, does the agency have legal discretion to impose or not impose the proposed restriction or discretion as to how the restriction will be imposed? If not, no further analysis is required. If so, the agency must determine if there are alternatives that would reduce, minimize or eliminate the restriction on the use of private property, and analyze such alternatives. The agency must disclose the potential costs of identified restrictions.	[NA]

23. **Description of and Impacts of other Alternatives Considered:** None
24. **Summary of Magnitude and Significance of Potential Impact:** None
25. **Cumulative Effects:** None
26. **Preferred Action Alternative and Rationale:** The preferred action is to issue the SDGP because the SDGP provides the regulatory mechanism for protecting water quality by enforcing the Montana Water Quality Act and rules.

Recommendation for Further Environmental Analysis:

EIS More Detailed EA No Further Analysis

Rationale for Recommendation: There will be no significant adverse impacts on the physical, biological or social portion of the human and natural environment.

27. **Public Involvement:** There will be a 30-day public comment period.
28. **Persons and agencies consulted in the preparation of this analysis:** None

EA Checklist Prepared By:

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November 2009

Approved By:

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Date