



DECISION NOTICE

FWP-DN-POR-R1-24-038

Flathead Lake Dynamic Gravel Beach Shoreline Erosion Protection Proposal

March 18, 2025

ACTION

Decision Notice (DN). Montana Fish, Wildlife & Parks (FWP) shall prepare a DN for the proposed action. The DN must identify the agency decision, the reasons for the decision, and any special conditions surrounding the decision or its implementation.

With this action, FWP hereby adopts the Draft Environmental Assessment or Draft EA as final, without modification, and approves Alternative 2, the proposed action.

AUTHORITY: MONTANA ENVIRONMENTAL POLICY ACT

According to the applicable requirements of the Montana Environmental Policy Act or MEPA and its implementing rules and regulations, before a proposed action may be approved, environmental review must be conducted to identify, consider, and disclose any potential impacts of the proposed action on the affected human environment. The level of environmental review will vary with the complexity and seriousness of environmental issues associated with a proposed action. The level of public interest will also vary. The agency is responsible for adjusting public review to match these factors. *Title 75, Chapter 1, Parts 1 through 3, Montana Code Annotated (MCA)*.

Based on these factors, FWP determined a standard EA (Draft EA) constitutes the appropriate level of review for the proposed action. Therefore, to assess and disclose potential impacts of the proposed action, FWP prepared a Draft EA for public review and comment. See *Public Participation Process* below.

Further, FWP must consider any substantive comments received in response to an EA and proceed in accordance with one of the following steps: determine the EA did not adequately reflect the issues raised by the proposed action and issue an Environmental Impact Statement or EIS; determine the EA did not adequately reflect the issues raised by the proposed action and issue a supplemental EA; or determine the Draft EA adequately addressed the issues raised by the proposed action and make a final decision, with appropriate modification resulting from the analysis provided in the Draft EA and the analysis of any substantive public comments received. See *Public Comment and FWP Response* below.

PUBLIC PARTICIPATION PROCESS

The Draft EA was made available for public review and comment from February 12, 2025 to March 13, 2025. The Draft EA was posted on FWP's Public Notice webpage: <https://fwp.mt.gov/news/public-notice>. The Draft EA was also made available for public review on the Environmental Quality Council or EQC website: <https://leg.mt.gov/mepa/search/>, by individual request, and through notice to identified interested parties. FWP received nine comments during the public comment period.

DESCRIPTION OF PROPOSED ACTION

FWP would repair any current and future eroding shorelines on FWP property on Flathead Lake utilizing a dynamic gravel beach design as funding permits. A dynamic gravel beach utilizes local cobble of varying sizes to stabilize the shoreline, while absorbing wave action through the movement of smaller top cobble. FWP has completed three previous dynamic gravel beaches to date at the Finley Point and Yellow Bay Units of Flathead Lake State Park, and Somers Beach State Park. All three projects have been successful at preventing further shoreline erosion, developing a more natural shoreline; and providing recreation lakeshore opportunities.

As funding is acquired, FWP will install dynamic gravel beaches on properties that rank as a higher priority first. Ranking will be based on the existing shoreline erosion, the rate of current shoreline erosion, current condition of the adjacent riparian vegetation, operational goals of the property based on site type, demand on the site by recreational use, and additional damage that may be occurring because of high visitor use. Since conditions will change as more wind/wave events occur, these rankings will be done when new funding is secured. FWP has secured funding for a portion of the Woods Bay property which currently ranks as the highest priority.

PURPOSE AND NEED

Under the proposed action, FWP would strive to build dynamic gravel beaches at all FWP properties, as funding permitted, on Flathead Lake. The purpose of the proposed project is to:

- Stop the loss of existing shoreline and vegetation due to wave erosion.
- Provide a natural transition from the aquatic environment along the shoreline to the adjacent vegetative areas.
- Improve recreational opportunities along the shore of Flathead Lake.

The intended result of building the dynamic gravel beach would be a shift from a net erosion dominated system to a net depositional system. The landscape would be composed of complex curved shorelines rather than conventional riprap.

ALTERNATIVES ANALYZED

Alternative 1: No Action

In addition to the proposed action, and as required by MEPA, FWP analyzes the "No-Action" alternative in the EA. Under the No-Action alternative, the proposed action would not occur. Therefore, no additional impacts to the human environment would occur. The No Action alternative forms the baseline from which the potential impacts of the proposed action may be measured.

Under the No Action alternative, would result in the continued erosion of the shorelines on FWP properties around Flathead Lake. The rate of erosion would be dependent on each site's shoreline, wind and wave action, and structures, i.e. sea walls or riprap, at adjacent properties.

Alternative 2: Proposed Action

Under the Proposed Action, the proposed project(s), FWP would install a dynamic gravel beach at FWP properties around Flathead Lake as funding permitted. Project prioritization would be based on current erosion of each site, current rate of shoreline loss, average wind and wave action which would assist in determining future shoreline loss rate, and recreational opportunities of each site. Each gravel beach would be designed independently but follow the general principles of a dynamic gravel beach as detailed in Section II: Background and Description of Proposed Project of the EA.

PUBLIC COMMENT AND FWP RESPONSE

FWP received substantive public comments on the Draft EA. A substantive public comment was defined as the identification of a specific issue or impact. The following provides the public comments received and FWP response(s).

Comment #1:

I fully support the gravel beach shoreline erosion project on Flathead Lake. Flathead Lake is a jewel in Northwest Montana and everything should be done to protect it for future generations. This project is very worthwhile and should be approved.

Response to Comment #1: FWP concurs.

Comment #2:

I'm writing in **support of Alternative 2** as proposed in the Gravel Beach EA. As a lifelong user of public (and many private) lands on the shoreline of Flathead Lake, I've seen the benefits of gravel beaches to several areas of the lake already. The north shore and other areas were virtually unusable to recreationalists in the past due to huge log jams and steep erosion cuts. Beyond the advantages of being able to use the lands for hiking, fishing, and other recreational pursuits, the degradation caused by the deep erosion cuts was further damaging this amazing resource.

I hope the Commission will vote in favor of continuing to improve our public lands with dynamic gravel beaches whenever possible.

Response to Comment #2: FWP concurs.

Comment #3:

The proposed addition of materials within the 100-year floodplain likely will cause changes to patterns of historical shoreline integrity and erosion which will impact our shoreline. We would like to see a scientific analysis of what changes we can expect on our property and how the applicant will mitigate these impacts.

Response to Comment #3: Project designer Dr. Mark Lorang is a PhD in Oceanography with 35 years of research experience. Dr. Lorang has utilized modeling to predict long-term impacts to eroding shorelines on Flathead Lake, including the proposed project at Woods Bay Fishing Access Site. Dr. Lorang has concluded that when completed, the dynamic gravel beach will significantly reduce the current wave erosion problem affecting the FWP property north of the boat launch and the private property to the north. It would be accomplished through the creation of a wave shadow to the north, thereby reducing wave height and hence wave power, which is the force that causes wave erosion. Wave power goes as the square of wave height, thus even a slight reduction of wave height exponentially reduces the force eroding adjacent properties. Modeling and design documents are available upon request.

Comment #4:

I have reviewed the Draft Environmental Assessment (EA) proposing to place dynamic gravel beaches on various Fish, Wildlife and Parks properties around Flathead Lake. Flathead Wildlife, Inc. supports the proposed action and we offer the following comments.

Flathead Lake presents a challenging environment for shoreline erosion. It has a more than 25 mile long north/south aspect with primarily southwesterly winds. However, cold fronts and accompanying strong winds will come out of the north and northeast. Wave heights of 4' to 6' are not unknown during severe storms. Adding to the problem, Seli's Ksanka Qlispe' (formerly Kerr Dam) regulates the upper 10' of Flathead Lake. Flathead Lake can be kept at near full pool from roughly Memorial Day to sometime in October. That concentrates wave energy during summer storms and from boat wakes against the prevailing shoreline. During drawdown periods (roughly October-May), there is no vegetation to moderate wave strength in the varial zone. In particular, fall storms when the lake is drawn down just one or two feet can concentrate wave energy at the base of shorelines where erosional forces can eat away banks. As noted in the EA, traditional shoreline structures such as riprap and seawalls just direct wave energy to adjacent properties or direct wave energy down to erode structure toes or over the top to erode behind structures. Most people do not appreciate how much gravel is transported parallel along shores by wave action. [google.com]

Dynamic gravel beaches were introduced into the Flathead by researchers out of the University of Montana Biological Station. Using a combination of hydrology and geology, dynamic gravel beaches dissipate wave energy up a long gravel face to reduce erosion. As added benefits, dynamic gravel beaches are more natural appearing and more compatible with recreational use than riprap and seawalls. Dynamic gravel beaches have been constructed in a number of locations around Flathead Lake with great success, requiring only some minimal maintenance at times.

As the EA notes, several sites are more vulnerable to erosion and would greatly benefit from the use of dynamic gravel beaches as needed and as resources become available. In our experience in using public access sites around Flathead Lake, portions of beach at Yellow Bay State Park, Woods Bay Fishing Access Site and Westshore State Park will benefit from addition of dynamic gravel beaches.

Thank you for the opportunity to comment and we support the future use of dynamic gravel beaches at FWP sites around Flathead Lake. Jim Vashro, President. Flathead Wildlife, Inc.

Response to Comment #4: FWP concurs.

Comment #5:

My sister's and I own Flathead Lake shoreline near Rollin, and our shoreline is eroding also. We want to do the same thing you are proposing for public shoreline. We are totally in favor of this plan.

Response to Comment #5: FWP concurs. There is currently a guide for landowners being developed by Dr. Mark Lorang. It is expected to be released to the public in the near future.

Comment #6:

I am writing to you as a landowner on wild horse Island. I've been following the erosion projects and the trial of the pebble Beach and was pretty excited to see the success. It could potentially reduce erosion on the island. I even have the freshwater map team bookmarked who I believe was involved in this work? Is there any way for private owners to become a part of this project?

Other than banning these wake boats, I don't see a solution to the continual loss of our lakeshore. This was never an issue in my life memory and I'm 51 and have been going to Wild Horse my whole life.

I hope you get tremendous support for this work and project. I think it's wonderful.

Any advice you might have for us owners would be much appreciated.

Response to Comment #6: FWP concurs. As a state agency we are unable to include private landowners on these projects. There is currently a guide for landowners being developed by Dr. Mark Lorang. It is expected to be released to the public in the near future.

Comment #7:

We own the little piece of property at the mouth of the Flathead River on the Federal Land boundary. We are having significant erosion between the river waves from the surf boats and on the west side when the lake is at full pool we lose multiple feet and trees per year. The original rip rap has dissipated and we have been researching options. For quite a few years we had a natural barrier with downed trees but the last fill over-pool we lost almost all of them. I read about your project and wondered if in any way we could become part of it? We would cover any costs associated with our portion. I suppose I could validate this as we are the last barrier before mother nature starts taking away the federal land.

Response to Comment #7: FWP concurs. As a state agency we are unable to include private landowners on these projects.

Comment #8:

As a State Park camper, frequent boater and landowner, I think your proposal is brilliant! I have watched shorelines and important recreation areas decline over the years due to erosion. I would even take your proposal one step further and educate shore owners or contractors on the proper methods to install the dynamic beaches. The pattern that distorts wave action and minimizes erosion is needed throughout the lake. This is a no brainer to me, especially after the great success you had at Yellow Bay. Let's get it done!

Response to Comment #8: FWP concurs. There is currently a guide for landowners being developed by Dr. Mark Lorang. It is expected to be released to the public in the near future.

Comment #9:

I am a Flathead Lake property owner. My shoreline has been eroding for years. You have my full support in your endeavor to mitigate the erosion problem. I also spend time in the state parks. We must do all we can for one-of the greatest lakes in the world.

Response to Comment #9: FWP concurs.

DECISION

Based on the environmental review provided in the Draft EA, and in accordance with all applicable laws, rules, regulations, and policies, FWP determined the proposed action (Alternative 2), will not have significant adverse impacts on the human environment associated with the proposed action and constitutes a reasonable and appropriate strategy to achieve identified objectives. Therefore, preparation of an EIS is unnecessary. FWP hereby adopts the Draft EA as final and approves the Alternative 2, the proposed action.

With this DN, FWP hereby adopts the Final EA, without modifications, and approves the proposed action.

Sincerely,

Dave Landstrom

Dave Landstrom
Acting Region One Supervisor
Montana Fish, Wildlife & Parks