# BURBOT INTRODUTION INTO VAN HOUTEN LAKE
# ENVIRONMENTAL ASSESSMENT
# DECISION NOTICE

**Montana Fish, Wildlife & Parks**
**Region Three, Bozeman**
**June 13, 2011**

## Proposed Action

Montana Fish, Wildlife & Parks (FWP) proposes to introduce burbot, a native species to the Big Hole River drainage, from Twin Lakes into Van Houten Lake in an attempt to reduce the numbers of longnose and white suckers in the lake and improve the recreational fishery for brook trout.

## Montana Environmental Policy Act

Montana Fish, Wildlife & Parks is required by the Montana Environmental Policy Act (MEPA) to assess significant potential impacts of a proposed action to the human and physical environment. In compliance with MEPA, an Environmental Assessment (EA) was completed for the proposed project by FWP and released for public comment on April 8, 2011.

Public comments on the proposed project were taken for 30 days (through May 9, 2011). The EA was mailed to 23 individuals and groups; legal notices were printed in the Montana Standard (Butte) and the Dillon Tribune newspapers. A draft EA was posted on the FWP webpage: http://fwp.mt.gov//publicnotices/.

## Summary of Public Comment

**Comment:** "I oppose the proposed introduction of Burbot in Van Houten Lake. Such actions invariably have unforeseen consequences, virtually none of which are beneficial. Despite all the best planning, investigation, and analysis, no one can accurately predict the full impact of such actions. Please find another way to accomplish your objectives."

**Response:** While it may be impossible to predict the exact consequences of the proposed action, the potential foreseeable outcomes were carefully reviewed in the EA document. Only under 1 scenario would there be any significant impact to the trout fishery in Van Houten Lake, and that scenario involved burbot being able to successfully reproduce, becoming over-populated and negatively impacting brook trout. Data from other Big Hole drainage lakes where brook trout and burbot are sympatric (Twin Lakes, Mussigbrod Lake, Miner Lake Pintler Lake) indicate this scenario highly unlikely. For example, in Twin Lakes, burbot are abundant and grow very slowly. However, despite a large burbot population, brook trout are also abundant in the lake. It is likely that the benthic (bottom) orientation of burbot and the more pelagic (open water) nature of trout leads to less habitat overlap between the species. Whereas the white and longnose suckers, which are also bottom dwellers, would be in close proximity to the predatory burbot leading to a higher probability of predator prey interactions.

**Comment:** "Alternative 3 *(Using netting to reduce sucker abundance in Van Houten Lake)* seems like the most sensible option.

"If Burbot were meant to be in Van Houten Lake they easily could have made it there on there own in historic times. Adding one more variable to the Van Houten equation will complicate things and the effects are unpredictable. Netting suckers is simple and effective.

"As for the disposal of the removed suckers; perhaps a neighboring landowner could be persuaded to house a small dump on their land, or the suckers could be frozen and sold as ice fishing bait. Netting through the ice and freezing them on the spot would save energy.

"Twin Lakes is a special little piece of the arctic here in SW Montana, please don't mess with the native fish assembly."

**Response:** It is unclear whether or not burbot could have naturally migrated into Van Houten Lake. Netting suckers, though relatively simple, is quite time consuming and would have to be repeated every three to five years in perpetuity to maintain the benefits of reduced sucker abundance. While the outcome of the proposed action (burbot introduction) is less predictable, the risks involved are minimal. Burbot are a native species and are present in the Big Hole River adjacent to Van Houten Lake so the potential for fish escaping and impacting other systems does not exist. An action similar to Alternative 3 would potentially be proposed if burbot are not successful at reducing sucker abundance. Netting similar to that which could be performed to reduce the sucker population could be performed periodically to reduce burbot numbers in the unlikely case that burbot introduction were to negatively impact the brook trout fishery (see response to comment above). Netted burbot, however, unlike suckers, could be donated to local food banks. An additional option would be to increase harvest limits and encourage anglers to harvest burbot to reduce their population.

Capturing and removing a small percentage of burbot from Twin Lakes is not anticipated to have a negative impact on burbot population in the lake. Twin Lakes has been netted annually for the past five years, and the data indicates that the burbot population in Twin Lakes is highly abundant. This results in a much smaller average size of burbot versus their size in surrounding lakes. Removal of a small percentage of the population in Twin Lakes, therefore, may be beneficial to burbot growth.

**Comment:** "Thanks for the opportunity to comment on the proposal to introduce burbot to Van Houten Lake in the Big Hole watershed. Montana TU supports this project because of its experimental value. It could be valuable to test the use of a native species for controlling rough fish to benefit a recreational fishery. Certainly, it incurs less risk than introducing another non-native predatory species, as has occurred elsewhere in the state with species such as tiger muskies. Besides monitoring the response in the brook trout population, we urge FWP to also monitor the project for potential burbot reproduction, burbot density and the trend in sucker density or biomass in Van Houten. Based on the description in the EA, it appears that the productive capabilities of Twin Lakes ensures there will be a positive compensatory response in the burbot population there, meaning removing fish for transplant to Van Houten will have little or no effect on the abundance at source lake.

"The biological and recreational objective of the proposal, however, is a little unclear. But, admittedly, we might be missing something. The EA says the goal is to "improve" the recreational brook trout fishery by increasing survival and, in theory, providing opportunities to grow more large fish. However, the EA also recognizes that the abundance of suckers in Van Houten Lake is one reason it currently has large brook trout (owing to large brook trout consuming juvenile suckers). So we conclude: This project is testing whether reducing sucker numbers can increase available space for brook trout – thereby increasing survival and higher numbers of large brook trout -- without reducing an available food source that apparently helps produce the large brook trout that occur there today.

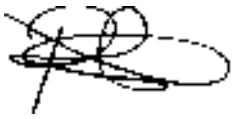
"The EA is unclear as to whether FWP will move additional burbot into Van Houten should the native be unable to spawn successfully there. We assume that's a decision that will be guided by monitoring of the brook trout response as well as angler use.

"In any event, we support this project because it could improve the recreational fishery at Van Houten, and more importantly because it tests whether it is possible to use a native predator for reducing rough fish for fishery management purposes."

**Response:** FWP will continue to monitor the introduction of burbot into Van Houten Lake to determine the impact on sucker abundance and size, and their impact on the brook trout population. FWP will also monitor for burbot reproduction by tagging all individual fish introduced into the lakes with a Floy tag and a permanent fin clip. If burbot reproduction is unsuccessful, additional introductions would be re-evaluated based upon the success or lack thereof of the original introduction. Additional burbot may be introduced into Van Houten Lake if significant benefits to the brook trout fishery are realized and it is determined that there would be no impact to the burbot fishery in Twin Lakes. Alternative methods to reduce or eliminate the sucker population may be considered if the introduction does not produce the desired outcome. It should be noted that burbot in Big Hole drainage lakes are extremely long-lived (> 20 years), so there is a high probability that burbot will prey upon suckers for a significant time period even in the absence of successful reproduction.

## Decision

Based on the Environmental Assessment, public comment, and benefits and risks associated with this project, it is my decision to go forward with the proposed action of introducing burbot into Van Houten Lake. I find there to be no significant impacts on the human and physical environments associated with this project. Therefore, I conclude that the Environmental Assessment is the appropriate level of analysis, and that an Environmental Impact Statement is not required.



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Patrick J. Flowers

Region Three Supervisor