DRAFT
ENVIRONMENTAL ASSESSMENT

BURBOT INTRODUCTION INTO VAN HOUTEN LAKE
March 2011

PART I: PROPOSED ACTION DESCRIPTION

A. Type of Proposed Action: The proposed action would introduce burbot (*Lota lota*), 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.

B. Agency Authority for the Proposed Action:

87-1-702. Powers of department relating to fish restoration and management. The department is hereby authorized to perform such acts as may be necessary to the establishment and conduct of fish restoration and management projects as defined and authorized by the act of congress, provided every project initiated under the provisions of the act shall be under the supervision of the department, and no laws or rules or regulations shall be passed, made, or established relating to said fish restoration and management projects except they be in conformity with the laws of the State of Montana or rules promulgated by the department, and the title to all lands acquired or projects created from lands purchased or acquired by deed or gift shall vest in, be, there remain in the state of Montana and shall be operated and maintained by it in accordance with the laws of the state of Montana. The department shall have no power to accept benefits unless the fish restoration and management projects created or established shall wholly and permanently belong to the state of Montana, except as hereinafter provided.

C. Estimated Commencement Date: June 2011

D. Name and Location of the Project: Introduction of burbot into Van Houten Lake.

Van Houten Lake is located near the headwaters of the Big Hole River in Beaverhead County (T22N R15W Sec 8). Twin Lakes is also in Beaverhead County (T24N R23E Sec 10), and is located on Big Lake Creek, a tributary to the Big Hole River.

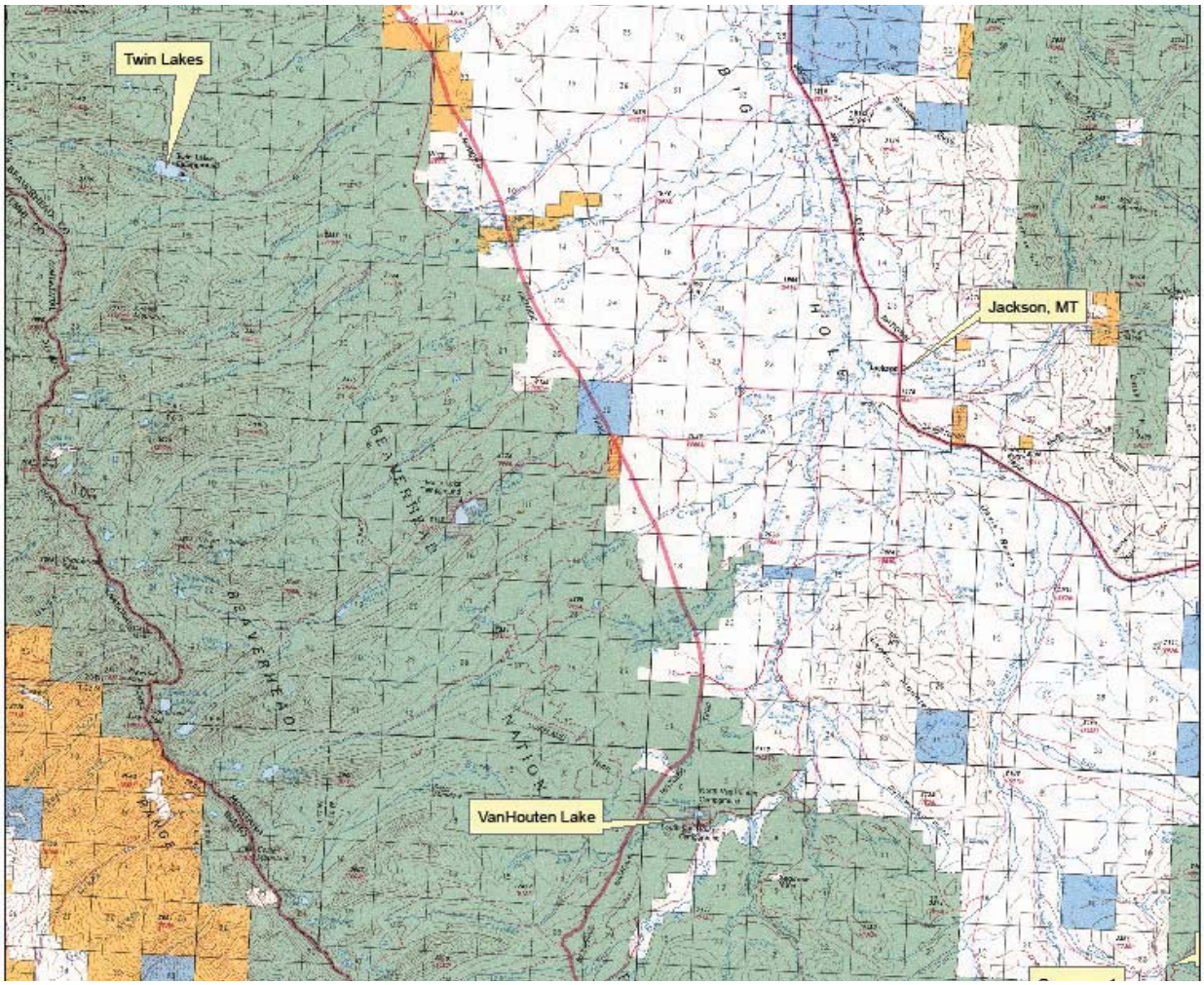

Figure 1. Map detailing location of Van Houten Lake and Twin Lakes.

E. Project Size (acres affected)

1. Developed/residential – 0 acres
2. Industrial – 0 acres
3. Open space/Woodlands/Recreation – 0 acres
4. Wetlands/Riparian – Van Houten Lake is 11.5 acres, Twin Lakes is 84 acres.
5. Floodplain – 0 acres
6. Irrigated Cropland – 0 acres
7. Dry Cropland – 0 acres
8. Forestry – 0 acres
9. Rangeland – 0 acres

F. Narrative Summary of the Proposed Action and Purpose of the Proposed Action

Van Houten Lake is located on a small, unnamed tributary to the Big Hole River southwest of Jackson, MT. The lake and surrounding area is a popular location for recreation. A Forest Service designated picnic area and campground exist at the lake, and the Skinner Meadows Road provides access to the upper Big Hole and to Bloody Dick Creek. Van Houten Lake is a shallow (18-foot deep) mud-bottomed lake containing abundant lily pads on its western end. Such shallow mountain lakes are typically very productive as they have warmer summer water temperatures and abundant invertebrate populations. It is unknown whether there were fish in the lake prior to initial stocking of rainbow trout in 1941. From 1941 to 1963, Montana Fish Wildlife and Parks (FWP) stocked over 90,000 rainbows into the lake, but no stocking has occurred since. In 1963 brook trout were introduced into the lake. Rainbow trout were apparently unable to reproduce in the lake but brook trout were and have since become self-sustaining. Longnose suckers and white suckers are also present in the lake, but it is unclear whether they were historically present in the lake or if they were introduced. Both sucker species are native fish to the Big Hole drainage.

In 2009, Van Houten Lake was sampled to determine the current status of the fishery. Two gillnets (one floating and one sinking) were set in the lake overnight on June 3, 2009. Brook trout (13), white suckers (83), and longnose suckers (43) were the only fish species captured. This data indicates that the sucker population is overabundant, outnumbering brook trout ten to one. When suckers become overabundant, they will often compete for food with sport fish such as brook trout. Several studies have documented increases in trout growth following decreases in sucker populations (Olsen and Frazer 2006). Brook trout undoubtedly prey upon the suckers in Van Houten Lake, but their predation rate is apparently not high enough to limit the number of suckers. This is compounded by the fact that only larger brook trout (i.e., those greater than 12 inches) likely prey on suckers. If smaller age classes of brook trout are competing for food with suckers, they will need significantly more time to recruit to the size where suckers become an important part of their diets.

A common fisheries management practice used to control an undesirable fish is the introduction of a predator species. Such introductions have had mixed success for various reasons including the habitat suitability for the introduced species, the stability and reproductive rate of the prey species, and angler exploitation of the introduced fish. Walleye, for example, have been introduced as a predatory species in reservoirs of Montana with mixed success. In suitable spawning and rearing habitat, walleye can actually become overpopulated and overexploit the prey population for which they were introduced to control. Often when a particular prey item becomes rare, predator fish will switch prey and begin to feed upon other sport fish species (i.e., trout or perch) or the prey of other desirable fish species (i.e., crayfish and other invertebrates) and thus compete for food. Tiger musky (a sterile hybrid between a muskellunge and a northern pike), for example, has been introduced in some waters to control sucker populations and has ended up requiring special regulations to protect them from angler overharvest.

In Van Houten Lake, FWP is proposing to introduce burbot as an additional predator species in an effort to control the sucker population and improve the brook trout fishery. Burbot, unlike walleye or tiger musky, are native to the Big Hole and common throughout the river system.

Burbot are the only freshwater member of the cod family and are native to the Missouri River drainage. All of the mid elevation lakes in the Big Hole that are well connected to the main river through tributary streams (Pintlar, Mussigbrod, Twin and Miner lakes) have native populations of burbot. Burbot are the top predator in these lakes (with the exception of Twin Lakes where lake trout are also present), and they coexist with cutthroat trout, Arctic grayling, brook trout, and white and longnose suckers. While it is likely that burbot prey upon these other game species, it is assumed that their primary prey base is suckers due to very similar habitat needs. FWP anticipates that burbot will prey primarily upon suckers in Van Houten Lake because of their abundance and habitat overlap. Burbot predation on brook trout would likely occur as well but is expected to be minimal. If the introduction is successful and burbot prey primarily on suckers, FWP expects the growth rate and potential survival of brook trout in the lake to increase. This will improve the recreational fishery at the lake and increase brook trout availability to anglers. Burbot are considered a desirable sport fish known for their high quality meat. Burbot harvest at the lake would be allowed, and the limits would be the same for other lakes in the Big Hole River unless future changes in the fishery warranted increasing or decreasing harvest limits.

Twin Lakes, located approximately 15 miles northwest (see Figure 1), is the proposed source of burbot for the Van Houten introduction. Twin Lakes has an all-native fish assemblage (with the exception of brook trout) consisting of mottled sculpin, westslope cutthroat trout, burbot, lake trout, and longnose and white suckers. Based upon size and age information collected in Twin Lakes, there appears to be an overabundance of burbot. The average size of burbot in Twin Lakes is 14.2 inches and 0.57 pounds as compared to 20.2 inches and 2.51 pounds in Mussigbrod Lake, and 21.1 inches and 2.45 pounds for Miner Lake. It is possible that because burbot share the lake with another top predator (such as lake trout), they may be food limited. FWP is proposing to capture between 100 and 300 burbot from Twin Lakes and transport them to Van Houten Lake over a three- to four-year period. It is anticipated that removing burbot from Twin Lakes will benefit the burbot fishery by reducing burbot density which may lead to an increase in growth and average burbot size. Lake trout will not likely be affected by reducing the number of burbot because of abundant brook trout and other fish species to prey upon in the lake. Westslope cutthroat trout, beginning in 2010, are stocked annually into Twin Lakes, and will likely serve as a forage item for lake trout.

Burbot would be captured in Twin Lakes using trap nets and cod pots. Fish captured and transported would be fitted with an individually-numbered tag and receive a permanent fin clip. Prior to the movement of any live fish, approval must be obtained from the Fish Health Committee, and a Wild Fish Transfer Authorization must be obtained as well. Since Twin Lakes' brook trout and burbot were tested in 2009 for fish pathogens and the results were negative, approval should be easily obtained. Fish would be transported from lake to lake in either a truck bed tank or coolers fitted with aerators. Fish will then be removed from the tanks and introduced into Van Houten Lake rather than discharging both the water and fish into the lake in order to reduce the chances of spreading any undesirable organisms in the water.

Once they are introduced, it is unknown whether burbot will be able to reproduce in Van Houten Lake. Nearby Miner Lake, although much larger with bigger inlet and outlet streams, has similar habitat conditions to Van Houten Lake in that both lakes are mud-bottomed. Burbot are self-

sustaining in Miner Lake, but they may be using gravel areas between the upper and lower lakes or the inlet or outlet stream to spawn. Such habitat does not appear to be present in Van Houten Lake. Burbot spawn in late February or early March under the ice, so little is known about the type of habitat used. Periodic monitoring will be used to determine if successful spawning in the lake is occurring. FWP will be able to determine if natural reproduction is occurring by the presence or absence of tags or fin clips. If burbot are unable to reproduce, it may be necessary to periodically supplement the lake with burbot in order to control the sucker population.

FWP will cease stocking and explore other alternatives for managing the lake if burbot are not successful at reducing sucker abundance and are unable to reproduce in Van Houten Lake. If burbot are successful at reproducing, however, and become overpopulated and consequently begin to harm the brook trout population, efforts may be undertaken to reduce the burbot population. Such efforts may include increasing the harvest limit on the lake or using mechanical means (i.e., electrofishing and/or netting) to reduce the population size. It is unlikely that the burbot population will become overabundant because this has not occurred previously in other Big Hole lakes where burbot are the top predator.

One potential outcome of reduced sucker numbers and improved conditions for brook trout is that the brook trout population could become overabundant resulting in smaller-sized fish. Brook trout are a highly fecund fish, and if populations are not controlled through predation and/or angler harvest, they often overpopulate resulting in smaller sized fish in poorer condition. Such fish are often less appealing to anglers resulting in less angling pressure and less harvest. Given the recreational use and the liberal brook trout limits at Van Houten Lake (20 daily and in possession), it is not likely that the brook trout population will become overabundant.

PART II. ALTERNATIVES

Alternative 1 – No action

This alternative would maintain status quo management of Van Houten Lake. The sport fishery in the lake probably wouldn't reach its potential due to the overpopulated sucker population and the resulting competition with brook trout. Van Houten Lake provides a popular recreational area with a campground and picnic area nearby, so it is important to manage the fishery for angler sport fish opportunity. While brook trout are currently available to anglers, it is likely that the fishery would greatly improve if the number of suckers in the lake were reduced. One potential benefit of the over-abundant sucker population, however, is the large size brook trout obtain in Van Houten Lake. It is likely that the brook trout which obtain large sizes (greater than 16 inches) in Van Houten Lake are those that have switched from an invertebrate diet to one of suckers. Larger, more energy-rich prey often results in faster growth rates and increased maximum size. It is unknown whether fish maximum size would be reduced in Van Houten Lake under the proposed alternative or other alternatives because the lake has the appropriate habitat to produce suitable fish growth. Brook trout still obtain large size (greater than 16 inches) in Mussigbrod Lake where burbot are the top predator.

The sucker population would be reduced, not eliminated, under Alternatives 2 and 3. Opportunities would still exist for brook trout to consume suckers and potentially obtain large

size. Brook trout may also obtain large size in the absence of numerous suckers by consuming the prolific invertebrates in Van Houten Lake made possible because of its warmer, productive habitat.

Alternative 2 - Proposed Action: Introduce burbot from Twin Lakes into Van Houten Lake to prey upon and reduce the numbers of suckers in the lake and improve the brook trout fishery.

This alternative, as described above, would involve live trapping burbot from Twin Lakes where the population is abundant and transporting them to Van Houten Lake. We expect that burbot will prey upon suckers and reduce their populations resulting in increased growth and potentially increased survival of brook trout. The recreational fishery for brook trout is expected to improve and provide more opportunites for anglers using this popular recreation area. It is unknown whether burbot would survive in Van Houten Lake, but the habitat conditions in the lake are quite similar to those in Miner Lake which contains a thriving burbot population. It is also unknown whether or not there is suitable habitat for spawning and rearing in the lake. Population monitoring after burbot introduction will determine whether burbot survive and spawn and what impact they are having on the sucker population. The other potential benefit of burbot introduction is the addition of them as a desirable game species available to anglers.

Alternative 3 –Mechanically (netting and/or electrofishing) removing suckers from Van Houten Lake to improve the brook trout fishery.

Mechanical removal of suckers would consist of trap netting and possible electrofishing in Van Houten Lake. Both methods are non-lethal. Therefore desirable species such as brook trout, in this case, can be returned to the lake while the suckers could be killed and removed. Trap netting can be particularly effective at capturing suckers when done in the spring during the adult sucker spawn taking place in tributary streams and along the lake shoreline.

One of the drawbacks and the main reason why this alternative was not selected as the preferred choice involves the disposal of killed suckers. Killed fish are generally disposed of in their natal waters to avoid potentially spreading fish pathogens. Given the small size, shallow nature, and proximity of recreation to Van Houten Lake, it would not be feasible to dispose of hundreds of suckers in the lake. The fish would have to be transported to a public disposal facility near Jackson. The second reason mechanical removal was not selected as the preferred alternative is the amount of effort and time that is required to mechanically remove fish and the temporary effect mechanical removal would have on the sucker population. It is likely this procedure would require a three-person crew five days per year for approximately three years to have a significant effect on the sucker population in Van Houten Lake. Comparatively, burbot are routinely captured during annual sampling at Twin Lakes and could be transported to Van Houten Lake with little additional effort. Furthermore, if burbot survive but do not reproduce in Van Houten, it is anticipated that they would live an additional 10 to 20 years or more based upon growth and ages of burbot from surrounding lakes. The anticipated effect of reduced sucker abundance, therefore, would potentially be perpetuated for 10 to 20 years. If burbot reproduction does occur, it is anticipated that the reduction in sucker abundance would be indefinite. It would be necessary to repeat removal efforts every four to six years to maintain

reduced sucker abundance if mechanical means were used, however. Mechanical removal was eliminated from further consideration based on the increased effort required, temporary nature, and difficulty in disposing of killed fish

Alternative 4: Use a piscicide to remove all fish from Van Houten Lake and restock it with brook trout.

Piscicides are commonly used in fisheries management to control or eliminate undesirable fish species. Rotenone is the most commonly used piscicide and would be the preferred chemical to use in Van Houten Lake. Rotenone acts by inhibiting oxygen transfer at the cellular level and it is very lethal at low concentrations to aquatic, gill-breathing organisms. Terrestrial organisms (including plants and animals) are not affected by rotenone at fish killing concentrations. Aquatic invertebrates, because they primarily respire through gills or through their skin, are temporarily impacted by rotenone. Rotenone would be applied to Van Houten Lake at a concentration of 1 part per million (ppm) by a motorized boat. The lake and adjoining campground would be closed during the treatment until the rotenone had naturally broken down in the lake (likely two to three weeks) to reduce the likelihood of public exposure to treated waters. Rotenone is not taxon specific, and so all fish in Van Houten Lake, including brook trout, would be killed. Following treatment, the lake would need to be restocked. It is unknown whether fish passage occurs from the Big Hole River to Van Houten Lake. If present, it is likely that suckers would recolonize the lake. The use of piscicide can be controversial and their use is generally only considered when other means, such as those listed above, are not viable options. The use of a piscicide was removed from further consideration for improving the brook trout fishery in Van Houten Lake because there are other viable options to reducing sucker abundance, and there would be less impact on non-target species and recreation at the lake.

PART III. ENVIRONMENTAL REVIEW OF THE PROPOSED ACTION

A. PHYSICAL ENVIRONMENT

1. LAND RESOURCES **Will the proposed action result in:**	**IMPACT Unknown**	**None**	**Minor**	**Potentially Significant**	**Can Impact Be Mitigated**	**Comment Index**
a. Soil instability or changes in geologic substructure?		X				
b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil which would reduce productivity or fertility?		X				
c. Destruction, covering or modification of any unique geologic or physical features?		X				
d. Changes in siltation, deposition or erosion patterns that may modify the channel of a river or stream or the bed or shore of a lake?		X				
e. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard?		X				

2. WATER Will the proposed action result in:	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Discharge into surface water or any alteration of surface water quality including but not limited to temperature, dissolved oxygen or turbidity?		X				
b. Changes in drainage patterns or the rate and amount of surface runoff?		X				
c. Alteration of the course or magnitude of flood water or other flows?		X				
d. Changes in the amount of surface water in any water body or creation of a new water body?		X				
e. Exposure of people or property to water related hazards such as flooding?		X				
f. Changes in the quality of groundwater?		X				
g. Changes in the quantity of groundwater?		X				
h. Increase in risk of contamination of surface or groundwater?		X				
i. Effects on any existing water right or reservation?		X				
j. Effects on other water users as a result of any alteration in surface or groundwater quality?		X				
k. Effects on other users as a result of any alteration in surface or groundwater quantity?		X				
l. Will the project affect a designated floodplain?		X				
m. Will the project result in any discharge that will affect federal or state water quality regulations? (Also see 2a)		X				

3. AIR Will the proposed action result in:	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Emission of air pollutants or deterioration of ambient air quality? (also see 13 (c))		X				
b. Creation of objectionable odors?		X				
c. Alteration of air movement, moisture, or temperature patterns or any change in climate, either locally or regionally?		X				
d. Adverse effects on vegetation, including crops, due to increased emissions of pollutants?		X				
e. Will the project result in any discharge which will conflict with federal or state air quality regs?		X				

4. VEGETATION Will the proposed action result in:	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Changes in the diversity, productivity or abundance of plant species (including trees, shrubs, grass, crops, and aquatic plants)?		X				
b. Alteration of a plant community?		X				
c. Adverse effects on any unique, rare, threatened, or endangered species?		X				
d. Reduction in acreage or productivity of any agricultural land?		X				
e. Establishment or spread of noxious weeds?		X				
f. Will the project affect wetlands, or prime and unique farmland?		X				

5. FISH/WILDLIFE Will the proposed action result in:	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Deterioration of critical fish or wildlife habitat?		X				
b. Changes in the diversity or abundance of game animals or bird species?			X		yes	5b
c. Changes in the diversity or abundance of nongame species?			X		yes	5c
d. Introduction of new species into an area?			X			5d
e. Creation of a barrier to the migration or movement of animals?		X				
f. Adverse effects on any unique, rare, threatened, or endangered species?		X				
g. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest or other human activity)?		X				
h. Will the project be performed in any area in which T&E species are present, and will the project affect any T&E species or their habitat? (Also see 5f)			X		Yes	See 5h
i. Will the project introduce or export any species not presently or historically occurring in the receiving location? (Also see 5d)			X			See 5d

Comment 5b: The goal of the proposed action is to collect the sport fish, burbot, from Twin Lakes and introduce them into Van Houten Lake to improve the brook trout fishery. Removing 100 to 300 burbot from Twin Lakes should represent only a minor reduction in burbot density. Tagging studies in Twin Lakes suggest the population is abundant and could easily support the removal of this quantity of fish. Removal of some burbot from Twin Lakes may benefit the burbot fishery in the lake by reducing density and potentially improving growth. There are no anticipated impacts to the native lake trout fishery in Twin Lakes because alternative prey (i.e., brook trout, suckers, westslope cutthroat trout) are available. Brook trout in Van Houten Lake are intended to benefit from this action because competition from white and longnose suckers will be reduced. This should increase fishing opportunities at Van Houten Lake because of a better brook trout fishery, and the addition of burbot would add another game fish species for angling opportunities.

Comment 5c: Non-game, non-target species impacted by the proposed action are white suckers and longnose suckers. Both species are native to the Big Hole, and populations are wide spread and locally abundant. The intent of introducing burbot to Van Houten Lake is to reduce the density of suckers which compete with brook trout. While burbot will prey on suckers, it is

unlikely that they will be eliminated from the lake. Burbot, like all fish that engulf their prey, can only consume prey up to a certain size. For burbot, this size is determined mostly by what can fit in their mouth. It is likely that suckers greater than 12 inches, which are present in Van Houten Lake, will not be preyed upon. Suckers and burbot have coexisted for potentially thousands of years in nearby lakes.

No amphibians or reptiles were documented at Van Houten Lake during sampling in 2009, but it is likely that long-toed salamanders (*Ambystoma macrodactylum*), spotted frogs (*Rana pretiosa*), western toads *(Bufo boreas)* (amphibians), and western terrestrial (*Thamnophis elegans*) and common garter (*T. sirtalis*) snakes (reptiles) are present. Rubber boa (*Charina bottae*) snakes may also be present. Certain fish species (brook trout is a commonly studied species) are known prey on juvenile and adult amphibians. Introduction of fish into previously fishless waters can sometimes have substantial effects on amphibian populations. Burbot are opportunistic predators, so it is possible that amphibians will be consumed. However because fish are present in Van Houten Lake, the introduction of burbot into the lake should have negligible additional effects on amphibian populations.

Comment 5d: Burbot are not currently present in Van Houten Lake. However, burbot are native to the Big Hole Drainage and are likely present in the river located less than a mile away. The outlet of Van Houten Lake drains into the Big Hole River, but it is unknown how well connected these two systems are because the lake outlet drains through a large swampy area before reaching the river. Burbot escaping Van Houten Lake and entering the Big Hole should have little or no effect on the fishery or aquatic community since the species is already present. The intent of burbot introduction is to reduce sucker density. An unintended consequence of burbot introduction would be a reduction in brook trout density as well. Based upon the fisheries in nearby similar lakes with burbot, this outcome is unlikely. If this were to occur and the brook trout fishery were to decline, however, stocking catchable-size fish (most likely westslope cutthroat trout) would be considered along with increasing burbot limits and mechanical removal of burbot.

Comment 5h: The project area is within potential grizzly bear, grey wolf, and lynx habitat. This project should have little or no impact on these species because none are dependent on fish for food. Both Twin Lakes and Van Houten Lake are popular recreational areas that are commonly frequented by people. The additional presence of FWP personnel at these areas to collect and transport fish should have very little or no additional impact on these species.

B.HUMAN ENVIRONMENT

6. NOISE/ELECTRICAL EFFECTS Will the proposed action result in:	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Increases in existing noise levels?		X				
b. Exposure of people to serve or nuisance noise levels?		X				
c. Creation of electrostatic or electromagnetic effects that could be detrimental to human health or property?		X				
d. Interference with radio or television reception and operation?		X				

7. LAND USE Will the proposed action result in:	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Alteration of or interference with the productivity or profitability of the existing land use of an area?		X				
b. Conflicted with a designated natural area or area of unusual scientific or educational importance?		X				
c. Conflict with any existing land use whose presence would constrain or potentially prohibit the proposed action?		X				
d. Adverse effects on or relocation of residences?		X				

8. RISK/HEALTH HAZARDS Will the proposed action result in:	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Risk of an explosion or release of hazardous substances (including, but not limited to oil, pesticides, chemicals, or radiation) in the event of an accident or other forms of disruption?		X				
b. Affect an existing emergency response or emergency evacuation plan or create a need for a new plan?		X				
c. Creation of any human health hazard or potential hazard?		X				
d. Will any chemical toxicants be used?		X				

9. COMMUNITY IMPACT Will the proposed action result in:	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Alteration of the location, distribution, density, or growth rate of the human population of an area?		X				
b. Alteration of the social structure of a community?		X				
c. Alteration of the level or distribution of employment or community or personal income?		X				
d. Changes in industrial or commercial activity?		X				
e. Increased traffic hazards or effects on existing transportation facilities or patterns of movement of people and goods?		X				

10. PUBLIC SERVICES/TAXES/UTILITIES Will the proposed action result in:	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Will the proposed action have an effect upon or result in a need for new or altered governmental services in any of the following areas: fire or police protection, schools, parks/recreational facilities, roads or other public maintenance, water supply, sewer or septic systems, solid waste disposal, health, or other governmental services? If any, specify: _____		X				
b. Will the proposed action have an effect upon the local or state tax base and revenues?		X				
c. Will the proposed action result in a need for new facilities or substantial alterations of any of the following utilities: electric power, natural gas, other fuel supply or distribution systems, or communications?		X				
d. Will the proposed action result in increased used of any energy source?		X				
e. Define projected revenue sources		X				
f. Define projected maintenance costs		X				

11. AESTHETICS/RECREATION Will the proposed action result in:	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Alteration of any scenic vista or creation of an aesthetically offensive site or effect that is open to public view?		X				
b. Alteration of the aesthetic character of a community or neighborhood?		X				
c. Alteration of the quality or quantity of recreational/tourism opportunities and settings? (Attach Tourism Report)			X		Yes	11c
d. Will any designated or proposed wild or scenic rivers, trails or wilderness areas be impacted? (Also see 11a, 11c)		X				

Comment 11c: The intent of this project is to improve the brook trout fishery in Van Houten Lake. By improving the fishery, it is possible that there could be increased recreation at the picnic and camping areas maintained by the US Forest Service. It is unlikely that improved fishing will result in substantial impacts to recreation at the site, however, because of its remote nature (100 miles from Butte and 60 miles from Dillon).

12. CULTURAL/HISTORICAL RESOURCES Will the proposed action result in:	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Destruction or alteration of any site, structure or object of prehistoric historic, or paleontological importance?		X				
b. Physical change that would affect unique cultural values?		X				
c. Effects on existing religious or sacred uses of a site or area?		X				
d. Will the project affect historic or cultural resources?		X				

13. SUMMARY EVALUATION OF SIGNIFICANCE Will the proposed action, considered as a whole:	IMPACT Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Have impacts that are individually limited, but cumulatively considerable? (A project or program may result in impacts on two or more separate resources which create a significant effect when considered together or in total.)		X				
b. Involve potential risks or adverse effects which are uncertain but extremely hazardous if they were to occur?		X				
c. Potentially conflict with the substantive requirements of any local, state, or federal law, regulation, standard or formal plan?		X				
d. Establish a precedent or likelihood that future actions with significant environmental impacts will be proposed?		X				
e. Generate substantial debate or controversy about the nature of the impacts that would be created?		X				
f. Is the project expected to have organized opposition or generate substantial public controversy? (Also see 13e)		X				
g. List any federal or state permits required.						13g

Comment 13g: The following permit would be required:

Live Fish Transfer Permit and ANS certification from FWP.

PART IV. ENVIRONMENTAL IMPACT STATEMENT REQUIRED?

FWP has determined that an Environmental Impact Statement is not warranted after considering the potential impacts of the proposed action and possible mitigation measures. The impacts of introducing burbot to Van Houten Lake should be minimal and are expected to improve the quality of the brook trout fishery. Because burbot are overabundant in Twin Lakes, this fishery will also likely benefit from a minor reduction on burbot population size once fish are trapped and transported to Van Houten Lake. Potential unintended negative impacts are that burbot would prey selectively on brook trout in Van Houten Lake and the fishery would be negatively impacted. However, given the coexistence of burbot and brook trout in nearby lakes including Twin Lakes and the abundance of suckers in Van Houten Lake, this outcome is unlikely. It has

been determined that no further analysis is necessary given the low risk of negative environmental impacts of the proposed action.

PART V. PUBLIC INVOLVEMENT AND PREPARATION

Submit written comments to: Montana Fish Wildlife and Parks
c/o Van Houten Lake EA
1820 Meadowlark Lane
Butte, MT 59701

Or e-mailed to jimolsen@mt.gov.

Comment period is 30 days. Comments must be received by May 9 at 5:00 p.m.
Prepared by : Jim Olsen_____ Date: April 8, 2011

The public will be notified in the following ways to comment on the EA for Van Houten Ling Introduction EA:

- Legal notices will be published in the Dillon Tribune and Butte Montana Standard. News releases will be given to the same newspapers and other media outlets.
- The draft EA and any subsequent decision notice will be posted on the FWP web site: http://fwp.mt.gov/news/publicNotices.
- Draft EAs would be available at the FWP Region 3 Headquarters in Bozeman and the FWP State Headquarters in Helena.

References

Olsen, J. R. and K. Frazer, 2006. Coldwater Fisheries Report. Project Number F-113. Montana Fish, Wildlife and Parks, Billings, MT.