



Montana Fish, Wildlife & Parks

Region 2 Office
3201 Spurgin Road
Missoula, MT 59804-3101
406-542-5500
Fax 406-542-5529
April 17, 2013

Missoula County Commissioners
200 W. Broadway
Missoula, MT 59802

Reference: Maclay Bridge Planning Study, Final Report

Dear Commissioners:

The "Final Report, Maclay Bridge Planning Study"¹ evaluated three potential options to address deficiencies identified for the existing Maclay Bridge and its siting. Those options were to improve safety and operations on the existing bridge, rehabilitate the existing bridge, or build a new bridge. Building a new bridge on South Avenue (specifically Option 3E.1, "South 1") was identified as the best alternative given the needs and objectives of the planning process.

After the Planning Study identified a best alternative, Montana Fish, Wildlife and Parks (FWP) fisheries staff conducted a site visit and evaluated the South 1 option's location. On the west bank of the Bitterroot River, it appears that a South 1 bridge would be located in the riparian area of O'Brien Creek, immediately downstream of this stream's confluence with the river. FWP believes that bridge construction at this location could create significant short-term and long-term aquatic impacts.

O'Brien Creek is an extremely important spawning tributary for native and introduced trout, and it is one of the few streams in this portion of the Missoula Valley that flows year-round and connects directly to the Bitterroot River. Over the past 15 years, a number of restoration and improvement projects that targeted coldwater fisheries have been completed on this stream. These projects were focused in the lowest reach (~0.2 mile above the mouth) and included channel reconstruction and replacement of the stream crossing structure on Blue Mountain Road to provide upstream fish passage (Missoula County/FWP joint project) and instream flow leases (Montana Water Trust/Clark Fork Coalition), as well as restrictive subdivision covenants to help protect the O'Brien Creek riparian area in a subdivision along the lower creek. Several Montana

¹ Prepared by Robert Peccia & Associates (Helena) for Missoula County (Missoula) and Montana Department of transportation (Helena), 22 March 2013.

Stream Protection Act (“SPA 124 permit”) and subdivision covenant violations over the past 10 years have elicited enforcement actions to protect the stream corridor immediately upstream of the stream mouth (which also appears to be immediately south of the identified “South 1” bridge location). As FWP understands the South 1 option, bridge construction could compromise the integrity of the lower O’Brien Creek stream corridor that we have all worked hard to protect and improve. In addition, relocating the bridge to this location would impact a large reach of currently intact riparian vegetation along the Bitterroot River.

Locating a bridge at South 1 would also be expected to facilitate increased public access to the Bitterroot River at this location (via Montana’s Stream Access law) and to direct angling pressure at congregations of spawning trout at the mouth of O’Brien Creek. The lower Bitterroot River is a very popular fishery in spring (March-May), which is the primary trout spawning period, and the current Maclay Bridge location is a heavily used access point for anglers. Potentially relocating a new bridge adjacent to the mouth of O’Brien Creek would thus be expected to increase angling pressure on congregations of adult trout that stage at the mouth of O’Brien Creek prior to and after spawning. Experience with similar situations--public access points at stream mouths--has highlighted the potential resource impacts and how undesirable this could be from an aquatic conservation standpoint.

We would also point out that the South 2 option, which would involve locating a new bridge over the Bitterroot River just *upstream* of the mouth of O’Brien Creek, would be expected to have essentially the same resource issues as those identified for the South 1 alignment.

Thank you for the opportunity for FWP to comment on this potential bridge replacement.

Sincerely,



Vivaca Crowser
Acting Regional Supervisor

VC/sr

C: Sheila Ludlow, Transportation Planning, Montana Dept of Transportation
Susan Kilcrease, Environmental Services, Montana Dept of Transportation
Jeff Key, Robert Peccia & Associates, Helena

From: McGrath, Mike <mike_mcgrath@fws.gov>
Sent: Tuesday, September 01, 2015 4:07 PM
To: Holloway, Becky E.
Cc: Joe Weigand; Schick, Jon; Bill Semmens; Ben Conard
Subject: Re: FW: Bull Trout in Bitterroot River at Maclay Bridge crossing--
Response to YBC questions

Becky,

Great questions on the yellow-billed cuckoo (YBC)! I'll do my best to answer them in the order that they were presented. First, I want to clarify the Service's concern for the species in the vicinity of the project area. As mentioned in my August 12th email, since 1959, there have been only 8 observations of the species in western Montana, with a quarter of those observations (n=2) occurring in the nearby vicinity of the project. Thus, we want to ensure the species receives proper consideration. Second, without documented nesting in western Montana, the YBC is generally regarded as a transient migrant. Therefore, we are currently more focused on migratory habitat for the YBC in western Montana than typical nesting habitat. For these reasons, we are recommending that the Montana Department of Transportation and the Federal Highway Administration conduct protocol surveys for the YBC.

Regarding your specific questions:

1. What part of the "proposed action" would trigger YBC playback surveys?

- a. Does this reference construction/operational noise disturbance that would reach potentially suitable breeding/rearing and/or general migratory habitat during the nesting season?
- b. Or direct alteration of such habitat during construction?
- c. Or both?

While it would be good to know the amount and location of potentially suitable breeding/rearing habitat within the action area, we are concerned with the effects of construction/operational noise disturbance on migratory habitat, as well as direct alteration of both habitat types during construction.

- d. We are unclear what, specifically, would trigger the recommendation for these surveys -

i. While we agree that a habitat survey is warranted for the area to be affected (both by noise and direct alteration) to determine Suitable Habitat (SH) for YBC, a survey for species presence is not warranted until SH is determined, and construction effects are known. In past ESA efforts where bird occurrence has been infrequently documented, and breeding is unlikely, species surveys have not been required unless the goal of the ESA consultation was to achieve a No Effect call. To that end...

2. What is the goal of a survey?

The goal of the surveys is to determine species presence/absence. Without conducting protocol surveys, we must assume species presence. Looking at an aerial photo of the potential action area, I recognize that the potential habitat patches are small in area, very narrow, and, in places, potentially impacted by human development. However, little is known about migratory habitat for the YBC. They may be found in a variety of vegetation types during migration, including coastal scrub, secondary growth woodland, hedgerows, humid lowland forests, and forest edges from sea level to 8,125 feet (Hughes 1999, pp. 6-7). Additionally, during migration YBCs may be found in smaller riparian patches than those in which they typically nest. Thus, the variety of vegetation types suggests that the habitat needs of the YBC during migration are not as restricted as their habitat needs when nesting and tending young (Proposed Listing Rule for YBC, Federal Register 78(192) p. 61634). Given (1) the historical observations in proximity to the potential action area, most recently in 2012, (2) that any YBCs potentially in the area are likely transient migrants, (3) the variety of vegetation types that may be used during migration, and (4) biological concerns that have been expressed, we recommend conducting the full protocol surveys in the year prior to construction to evaluate presence and duration of the species within at least a 1-mile radius of the potential action area. The 1-mile radius recommendation is based on telemetry data in Sechrist et al. (2009. Western Yellow-billed cuckoo radio telemetry study results: Middle Rio Grande, New Mexico 2007-2008. USDI Bureau of Reclamation 58 pp.). The rationale is thus: (1) to date, YBC observations in western Montana have all been in June and July, however, we are unsure if the lack of August observations is due to the species not being here, or due to a lack of survey effort; and (2) once there is a full protocol survey effort (e.g., June, July, August), the results of the effort will help form the basis for your effects determination. If the surveys document presence, and potential breeding could be inferred, due to the species' site fidelity, the June and July exclusionary window would likely stand. However, if surveys indicate transient migrants or no presence, and it can be supported that disturbance won't affect a migrant's ability to shelter and/or feed, there would likely be more liberty on a work window.

a. If a playback survey is conducted and no detections are made after one year of surveying, would a "No Effect" call be warranted under ESA?

b. Due to the few documented occurrences of YBC in the vicinity of the project, would survey be required to reach NLAA, even if no SH is directly altered and if (no commitments at this time) the County could implement the construction window to minimize noise-related disturbance?

The survey efforts in the year prior to construction will improve the effects determination for the species by the Action Agency and make the determination more defensible. Taking all things into consideration (e.g., historical observations, results of the protocol survey efforts, conservation

measures, plans to restore impacted riparian vegetation, etc.), it could be determined if there would be (1) no effect whatsoever to the species, (2) insignificant and discountable effects, or (3) adverse effects.

3. Would the “riparian woodlands” in which the proposed action occurs have to meet a contiguous block size, stand age, and/or subcanopy composition before considered SH and therefore subject to such playback surveys?

a. Literature generally suggests western population of YBC is restricted to narrow zones of riparian woodlands comprised of dense, closed-canopy (mature) cottonwood-willow. YBC are found in woodland patches as small as 3ha, but that “40 ha of suitable habitat may be required for viable breeding populations (Bennet and Keinath 2003).” Laymon and Halterman (1989) described “optimum habitat patches for the western yellow-billed cuckoo are greater than 200 acres in size and wider than 1,950 feet; sites 101 to 200 acres in size and wider than 650 feet were suitable; sites 50 to 100 acres in size and 325 to 65 feet were marginal; and sites smaller than these dimensions were unsuitable.”

b. The document you provided states: *Breeding western Yellow-billed Cuckoos are riparian obligates and currently nest almost exclusively in low to moderate elevation riparian woodlands with native broadleaf trees and shrubs that are 20 hectares (ha) (50 acres (ac)) or more in extent within arid to semiarid landscapes (Hughes 1999, 79 FR 59992).*

c. Given the range of stand sizes/ages that may be considered suitable habitat, does your office have a screening tool or other metrics to determine SH? More specific metrics/screening tools and metrics would help us defensibly screen for SH.

In answer to these questions, please see my response regarding migratory habitat listed under question 2 above. Basically, no, the riparian woodlands would not have to meet a contiguous block size, stand age, and/or subcanopy composition to be considered suitable habitat for the protocol surveys. Given that the historical observations indicate the YBC in western Montana is likely a transient migrant, we're interested in migratory habitat, which is more general in nature. In response to Part C, our office does not currently have a screening tool or other metric to determine suitable habitat. However, we are willing to work with the Action Agency and any surveyor(s) in doing so for this project.

4. Unfortunately, the YBC breeding window (June 1 – July 31) cuts deeply into the in-water work window, though, as you mention, there appears biological support for extension of the in-water window into later portions of the summer/early fall due to prohibitively high instream temps in the mainstem. If we document no suitable breeding habitat for the YBC, it does not seem the June 1 – July 31 window will provide much protection for the species, since only migratory habitat would be affected (assuming suitable).

Given that we are most likely dealing with migratory habitat, we are primarily concerned with effects to the species. Conducting the protocol surveys the year prior to construction will aid in determining if the species is present in the Action Area, and potentially, for how long. The pre-construction year surveys will help with the effects determination, and may aid in determination of the work window.

Regardless of the requirement to conduct them, I would be interested in more information regarding upcoming training opportunities for the playback surveys, and if one year of surveying would be sufficient. I have reached out within our company and it looks like we have some folks that are trained to conduct the surveys.

In coordination with other USFWS Field Offices, protocol survey training is done for this year. It is my understanding that other training opportunities will develop in late May or June next year, and will likely not occur in Montana. I will keep you posted as I learn more. Please remember that any YBC surveyor will need to have participated in these USFWS training opportunities and must be properly permitted by the USFWS (they will need an applicable 10(a)(1)(A) permit) and any necessary state permits. For permitting, it is my current understanding that an applicant will need to: (1) complete a USFWS-sponsored yellow-billed cuckoo protocol survey course; and (2) have YBC-specific survey experience. If an applicant does not have the in-field survey experience, in USFWS Region 6 (MT, WY, CO, UT, KS, NE, SD, and ND), they will need to complete at least 8 hours of survey work under an existing permittee. The level of survey experience will vary among the various USFWS regions. For example, Region 8 (CA and NV) requires 40 hours of YBC survey experience. Additionally, a permit is valid only in the Region in which it is issued, however, multi-region permits are possible, but will require additional processing time for inter-Region coordination. The recommendation is to submit the application for a permit in January/February to allow time for processing. It is my understanding that applicants can complete the protocol survey course and survey experience while the application is being processed.

If there are questions, please don't hesitate to contact me.

Mike

Mike McGrath
Fish and Wildlife Biologist
USFWS Montana ES Field Office
585 Shepard Way, Suite 1
Helena, MT 59601
406-449-5225 ext. 201

www.fws.gov/montanafieldoffice

Telework Schedule: Monday and Thursday 7 am - 5:30 pm

Helena: Tuesday and Wednesday 7 am - 5:30 pm

On Thu, Aug 13, 2015 at 6:06 PM, Holloway, Becky E. <Becky.Holloway@hdrinc.com> wrote:

Thanks for the feedback, Mike. I spoke with Ladd a few weeks ago and he relayed similar concerns about O'Brien Creek and bull trout use and occurrence in the anticipated action area for the project. I've passed Ladd's comments along to our environmental project manager.

Regarding the YBC - I don't yet have project design details so I can't comment on whether the project will occur in deciduous riparian woodlands. Our wetland biologist, Lisa Danielski, also a terrestrial bio and a strong birder, will be conducting a site visit in the next few months. She is well-versed with cuckoo habitat and will be assisting with the ESA consultation for that species.

You state below that you "recommend" protocol surveys be conducted if the "proposed action" occurs within deciduous riparian woodlands. To that, we have a few questions:

1. What part of the "proposed action" would trigger YBC playback surveys?

- a. Does this reference construction/operational noise disturbance that would reach potentially suitable breeding/rearing and/or general migratory habitat during the nesting season?
- b. Or direct alteration of such habitat during construction?
- c. Or both?
- d. We are unclear what, specifically, would trigger the recommendation for these surveys -

- i. While we agree that a habitat survey is warranted for the area to be affected (both by noise and direct alteration) to determine Suitable Habitat (SH) for YBC, a survey for species presence is not warranted until SH is determined, and construction effects are known. In past ESA efforts where bird occurrence has been infrequently documented, and breeding is unlikely, species surveys have not been required unless the goal of the ESA consultation was to achieve a No Effect call. To that end...

2. What is the goal of a survey?

a. If a playback survey is conducted and no detections are made after one year of surveying, would a “No Effect” call be warranted under ESA?

b. Due to the few documented occurrences of YBC in the vicinity of the project, would survey be required to reach NLAA, even if no SH is directly altered and if (no commitments at this time) the County could implement the construction window to minimize noise-related disturbance?

3. Would the “riparian woodlands” in which the proposed action occurs have to meet a contiguous block size, stand age, and/or subcanopy composition before considered SH and therefore subject to such playback surveys?

a. Literature generally suggests western population of YBC is restricted to narrow zones of riparian woodlands comprised of dense, closed-canopy (mature) cottonwood-willow. YBC are found in woodland patches as small as 3ha, but that “40 ha of suitable habitat may be required for viable breeding populations (Bennet and Keinath 2003).” Laymon and Halterman (1989) described “optimum habitat patches for the western yellow-billed cuckoo are greater than 200 acres in size and wider than 1,950 feet; sites 101 to 200 acres in size and wider than 650 feet were suitable; sites 50 to 100 acres in size and 325 to 65 feet were marginal; and sites smaller than these dimensions were unsuitable.”.

b. The document you provided states: *Breeding western Yellow-billed Cuckoos are riparian obligates and currently nest almost exclusively in low to moderate elevation riparian woodlands with native broadleaf trees and shrubs that are 20 hectares (ha) (50 acres (ac)) or more in extent within arid to semiarid landscapes (Hughes 1999, 79 FR 59992).*

c. Given the range of stand sizes/ages that may be considered suitable habitat, does your office have a screening tool or other metrics to determine SH? More specific metrics/screening tools and metrics would help us defensibly screen for SH.

4. Unfortunately, the YBC breeding window (June 1 – July 31) cuts deeply into the in-water work window, though, as you mention, there appears biological support for extension of the in-water window into later portions of the summer/early fall due to prohibitively high instream temps in the mainstem. If we document no suitable breeding habitat for the YBC, it does not seem the June 1 – July 31 window will provide much protection for the species, since only migratory habitat would be affected (assuming suitable).

Regardless of the requirement to conduct them, I would be interested in more information regarding upcoming training opportunities for the playback surveys, and if one year of surveying would be sufficient. I have reached out within our company and it looks like we have some folks that are trained to conduct the surveys.

Finally, we're hoping to be able to discuss the project in more detail once we have made a determination regarding SH, and have more information regarding construction means and methods.

Thanks very much for your time. Appreciate the detailed information. It's very helpful.

Becky Holloway

T 253.858.5686 **M** 206 383-3068

hdrinc.com/follow-us

From: McGrath, Mike [mailto:mike_mcgrath@fws.gov]
Sent: Wednesday, August 12, 2015 1:15 PM
To: Holloway, Becky E.
Cc: Joe Weigand
Subject: Re: FW: Bull Trout in Bitterroot River at Maclay Bridge crossing

Hi Becky,

Thanks for the inquiry. Dan Brewer is one of our Fisheries Biologists, and one of the areas that he covers includes the Bitterroot River. However, I catch the transportation projects and work closely with the Montana Department of Transportation and the Federal Highway Administration throughout the state.

In response to your questions, this lower portion of the Bitterroot River does see a little use by bull trout for overwintering, is a migratory corridor, and has been designated as a critical habitat for the species, and serves as foraging, migratory, and overwintering (FMO) habitat. It does not contain spawning and rearing habitat, and is well known as being too warm for bull trout in the summer.

AVISTA Corporation, which operates the Thompson Falls, Noxon Rapids, and Cabinet Gorge dams on the lower Clark Fork River, has operated a "trap and transport" program for bull trout for the last several years, to allow for upstream migratory movement of the species from Lake Pend Oreille in Idaho. As part of their program, they are working with the Service's Abernathy Fish Technology Center to genetically assign in 24 hours the local population from which each fish originated so that they can transport each fish above the appropriate dam. Since 2004, they have transported >400 fish, of which 2 have been genetically assigned to Meadow Creek, which is a tributary of the East Fork Bitterroot River.

In discussing this project with Ladd Knotek, Montana Fish, Wildlife and Parks' fisheries biologist for the area, he has documented bull trout overwintering in the confluence of the Bitterroot and Clark Fork rivers, downstream of the project area, and indicated that bull trout, as well as other fish species, may use the mouth of O'Brien Creek as a thermal refugia, as it is a cold water refuge in summer. Ladd stressed the importance of O'Brien Creek from a fisheries standpoint because it is the only perennial tributary in this reach, and its mouth serves as a cold water refuge in summer. I support his recommendations that the project leave at least a 50 foot riparian area around the mouth of O'Brien Creek and prevent anglers from being able to access this location due to its importance as a refuge for fish. Additionally, due to the cold waters, if bull trout were to occur in the area, this area would attract them.

Regarding an in-water work window, in FMO habitat, which includes this reach, we typically recommend July 1 through August 31. However, given that the Bitterroot River is so warm through this reach, an argument could be made for a wider work window based on high water temperatures and their effect on bull trout presence.

Occurrences of yellow-billed cuckoos in western Montana are rare. Only eight occurrences of the species have been verified since 1959. These include: (1) a female with an egg in the oviduct found in the nearby Orchard Homes

neighborhood in 1980; and (2) a single bird that was photographed at 33 Marshall Street in Missoula in mid-June, 2012, and was likely seen a few days later along Tower Street (near the project area) a few days later (Montana Natural Heritage Database 2015). If the proposed action is within deciduous, riparian woodlands, we recommend conducting playback surveys following established protocols (attached). In order to obtain the necessary calls for the survey, the appropriate individual(s) would need to attend training to conduct the surveys. I can inquire as to upcoming training opportunities. However, no training is scheduled to occur in Montana. Despite the 1980 observation, we do not believe that there is a breeding population of yellow-billed cuckoos in western Montana. As a result, a section 10(a)(1)(A) permit would not be required from the Service to conduct the surveys.

The following conservation measures are intended to avoid, minimize, and mitigate effects to individual yellow-billed cuckoos and their respective habitat:

1. Adjust project timing to avoid disruption of individual yellow-billed cuckoos within riparian areas from June 1 through July 31.
2. Avoid or minimize the removal of yellow-billed cuckoo habitat, typically riparian vegetation.
3. Replace/replant removed riparian vegetation.

If you have any questions, please feel free to contact me.

Mike

Mike McGrath

Fish and Wildlife Biologist

USFWS Montana ES Field Office

585 Shepard Way, Suite 1

Helena, MT 59601

406-449-5225 ext. 201

www.fws.gov/montanafieldoffice

Telework Schedule: Monday and Thursday 7 am - 5:30 pm

Helena: Tuesday and Wednesday 7 am - 5:30 pm

From: Holloway, Becky E. [mailto:Becky.Holloway@hdrinc.com]
Sent: Tuesday, July 21, 2015 11:20 AM
To: [Dan Brewer@fws.gov](mailto:Dan_Brewer@fws.gov)
Subject: Bull Trout in Bitterroot River at Maclay Bridge crossing

Hello Dan –

I called the Helena field office and was given your name as a fish bio in the area. I'm going to be writing the ESA Section 7 document for a proposed new river crossing at the western terminus of South Avenue over the Bitterroot River, just west of Missoula. The project also includes removal of the existing Maclay Bridge, located about 0.4 river miles downstream of the proposed new crossing. I haven't had an engineer scale it off, but it looks to me like Maclay Bridge is located between RM 1-2 of the Bitterroot, just upstream of the confluence with the Clark Fork.

I'm just getting started pulling together the environmental baseline and status of species in the area and had a look at the IPac report, NHP data, MFISH, and Streamnet. The project reach is designated critical habitat for bull trout, but I'm hoping to dive a bit deeper, and better characterize use of the reach by bull trout. MFISH reports bull trout distribution in this reach of the Bitterroot as "rare", and that fluvial and adfluvial populations are present. Do you have familiarity with this area? I'm wondering if the reach is primarily used as a migratory corridor for adults and subadults, or if there is potential for other life history use (i.e., spawning or rearing)?

If primarily a migratory corridor, are there periods of more common occupancy to and from upstream spawning grounds? If spawning habitat, what is the typical timing?

Also, although I'm ahead of the design and don't have details regarding the type of bridge proposed to be installed, it is anticipated that full-spanning of the river is not feasible at the preferred crossing location. As such, some in-water work will likely be required for bridge piers. Is there an in-water work window for this stretch of the Bitterroot River? I imagine it will be a summer, low-flow window, but want to confirm if any specific dates are established.

Finally, sounds like you are a fish bio, but do you (or your colleagues) have any knowledge of suitable habitat or occurrence of yellow-billed cuckoo in the area? Our wetland and terrestrial biologists will be on site in the near future and will be assessing the suitability of habitat for listed terrestrial species, but I would like to get agency input. There are no reported observations of the cuckoo (or grizzly, or lynx) from the Natural Heritage database, within the subject Sections for either the new bridge or Maclay Bridge, but we want to cover all the bases.

Appreciate any input you can provide. FYI, I've also sent an inquiry email/voicemail to Chris Clancy at MFWP.

Thanks very much for your time.

Becky Holloway

Senior Environmental Biologist

HDR

4717 97th Street
Gig Harbor, WA 98332-5710
T 253.858.5686 **M** 206 383-3068
Becky.Holloway@hdrinc.com

hdrinc.com/follow-us

Harmon, Dan

From: Knotek, Ladd <lknotek@mt.gov>
Sent: Tuesday, November 24, 2015 10:17 AM
To: Greg Robertson
Subject: FWP Comments on MaClay/South Ave Bridges
Attachments: Initial FWP Comments Summary 2015.doc

Hi Greg-

Apparently we FWP didn't get any recent comments on record regarding the Maclay/South Ave Bridge project.. Attached is a written summary of the points we have talked about.. assuming the South Avenue bridge option is implemented.

Been getting quite a few inquiries regarding our thoughts/comments, so decided it would be good to summarize. Shouldn't be anything new here.

Let me know if you see any issues, so we can work on them with you up front.

Thanks-

Ladd

W. Ladd Knotek
Fisheries Management Biologist
Montana Fish, Wildlife & Parks
3201 Spurgin Road
Missoula, MT 59804
(406) 542-5506
lknotek@mt.gov

FWP COMMENTS AND INFORMATION RELATED TO MACLAY AND SOUTH AVENUE BRIDGES

The information below summarizes and reiterates FWP's comments and recommendations related to the proposed South Avenue bridge construction on Bitterroot River. These comments pertain to fisheries concerns, protection of river and riparian integrity, and public access. Comments highlight the importance of lower O'Brien Creek as a spawning/rearing tributary and protection of adult trout that congregate near the stream mouth. In addition, public access for angling and recreation are important public considerations at the current (North Avenue) and potential South Avenue bridge locations.

Primary Concerns and Comments:

- Riparian Buffer along O'Brien Creek: The proposed bridge alignment and current approach easement run parallel and adjacent to lower O'Brien Creek. As bridge and approach locations are designed and surveyed, a substantial (50-100 ft), no disturbance buffer should be included along O'Brien Creek and at the confluence with the Bitterroot River. A large public investment has been made in this reach over the 15 years through restoration work, fish passage improvements, as well as adoption and enforcement of protective subdivision covenants.
- Minimizing Public Access and Disturbance on west end of proposed bridge : With the current easement alignment, the mouth of O'Brien Creek and fish holding water just downstream in the Bitterroot River lie directly adjacent to the west end of the proposed bridge. Both physical disturbance and public access should be limited at this location to minimize impacts to congregations of fish using this location. Specifically, mitigation measures should be incorporated to protect and enhance the buffer between the bridge and the confluence area, as well as discourage bank angling there.
- Maintain Public access at Maclay Bridge Location and provide adequate public river access at east end of South Avenue site: Public demand for river access is high in lower Bitterroot River reaches adjacent to Missoula. This includes access for angling, as well as other recreationists (e.g. tubers/floaters). Reasonable public river access and parking opportunity should be maintained at the Maclay Bridge site and on the East end of a new bridge location at South Avenue. These sites will be important components of the overall public river access plan for the Lower Bitterroot River reach near Missoula.
- Restore natural features to Maclay site if bridge is removed: If a new crossing is constructed at South Avenue, infrastructure associated with the Maclay Bridge should be removed and natural river features should be restored. This would include removal of bridge piers, pilings and abutments to an elevation below maximum scour depth, restoration of riparian buffers, and pulling back approaches to restore a normal cross-sectional width for this reach.
- Design of new bridge should not constrict the Bitterroot River cross-sectional (bankfull) width, should minimize riparian disturbance, and consider location of bridge piers to minimize collection of floating debris (LWD).

General Biological Information:

- Fish Species affected by Project: Lower O'Brien Creek in the project area supports westslope cutthroat trout (WCT), RainbowxWCT trout hybrids, brown trout, brook trout, mountain whitefish, and sculpin. The lower Bitterroot River has a similar species composition. No viable population of bull trout has ever been detected in O'Brien creek and population densities are extremely low in the lower main stem Bitterroot River. However, the mouth of O'Brien Creek is likely used seasonally by bull trout as it acts as a thermal refuge in summer and early fall. The lower Bitterroot River also provides important over-winter habitat for bull trout as this reach is heavily influenced by groundwater and generally maintains slightly higher over-winter temperatures than the Clark Fork River just downstream.



January 7, 2016

RECEIVED

JAN 08 2016

HDR ENGINEERING, INC.

To: Mr. Dan Harmon and HDR Staff

The attached statement from Montana, Fish, Wildlife and Parks recently came to our attention, and we want to endorse and voice our agreement with all of the points made in FWP's comments. In addition, we hope that during the design process you will also consider several other issues – listed below:

- Construct the bridge such that piers can be placed outside of the active channel to the greatest extent possible. However, if mid-channel or floodplain piers prove necessary, they should be designed to be as hydraulically efficient as possible such that they don't cause excessive scour, deposition, or hazard to watercraft.
- Consider the rural characteristics of the neighborhood and design a bridge that reflects those values.
- Consider the increased traffic on the South Avenue approach as well as on the Blue Mountain Road. To what extent will a new bridge result in increased traffic on either South Avenue or Blue Mountain Road? How can these impacts be mitigated? Will additional road maintenance be required on the Blue Mountain Road if traffic increases? Given that this road is adjacent to the river, the impact of additional de-icer application should be considered.

Thanks for the opportunity to comment.
Best regards,

A handwritten signature in cursive script that reads "Christine Brick".

Christine Brick
Science Director
542-0539 ext 202
chris@clarkfork.org

A handwritten note in cursive script that says "Thanks! Dan = Chris".

PO Box 7593
Missoula, MT 59807

T: 406.542.0539
F: 406.542.5632

www.clarkfork.org

FWP COMMENTS AND INFORMATION RELATED TO MACLAY AND SOUTH AVENUE BRIDGES

The information below summarizes and reiterates FWP's comments and recommendations related to the proposed South Avenue bridge construction on Bitterroot River. These comments pertain to fisheries concerns, protection of river and riparian integrity, and public access. Comments highlight the importance of lower O'Brien Creek as a spawning/rearing tributary and protection of adult trout that congregate near the stream mouth. In addition, public access for angling and recreation are important public considerations at the current (North Avenue) and potential South Avenue bridge locations.

Primary Concerns and Comments:

- Riparian Buffer along O'Brien Creek: The proposed bridge alignment and current approach easement run parallel and directly adjacent to lower O'Brien Creek. As bridge and approach locations are designed and surveyed, a substantial (50-100 ft), no disturbance buffer should be included along O'Brien Creek and at the confluence with the Bitterroot River. A large public investment has been made in this reach over the 15 years through restoration work, fish passage improvements, as well as adoption and enforcement of protective subdivision covenants.
- Minimizing Public Access and Disturbance on west end of proposed bridge : With the current easement alignment, the mouth of O'Brien Creek and fish holding water just downstream in the Bitterroot River lie directly adjacent to the west end of the proposed bridge. Both physical disturbance and public access should be limited at this location to minimize impacts to congregations of fish using this location. Specifically, mitigation measures should be incorporated to protect and enhance the buffer between the bridge and the confluence area, as well as to discourage bank angling there.
- Maintain Public access at Maclay Bridge Location and provide adequate public river access at east end of South Avenue site: Public demand for river access is high in lower Bitterroot River reaches adjacent to Missoula. This includes access for angling, as well as other recreationists (e.g. tubers/floaters). Reasonable public river access and parking opportunity should be maintained at the Maclay Bridge site and on the East end of a new bridge location at South Avenue. These sites will be important components of the overall public river access plan for the Lower Bitterroot River reach near Missoula.
- Restore natural features to Maclay site if bridge is removed: If a new crossing is constructed at South Avenue, infrastructure associated with the Maclay Bridge should be removed and natural river features should be restored. This would include removal of bridge piers, pilings and abutments to an elevation below maximum scour depth, restoration of riparian buffers, and pulling back approaches to restore a normal cross-sectional width for this reach.
- Design of new bridge should not constrict the Bitterroot River cross-sectional (bankfull) width, should minimize riparian disturbance, and consider location of bridge piers to minimize collection of floating debris (LWD).

General Biological Information:

- Fish Species affected by Project: Lower O'Brien Creek in the project area supports westslope cutthroat trout (WCT), RainbowxWCT trout hybrids, brown trout, brook trout, mountain whitefish, and sculpin. The lower Bitterroot River has a similar species composition. No viable population of bull trout has ever been detected in O'Brien creek and population densities are extremely low in the lower main stem Bitterroot River. However, the mouth of O'Brien Creek is likely used seasonally by bull trout as it acts as a thermal refuge in summer and early fall. The lower Bitterroot River also provides important over-winter habitat for bull trout as this reach is heavily influenced by groundwater and generally maintains slightly higher over-winter temperatures than the Clark Fork River just downstream.



United States Department of the Interior

Fish and Wildlife Service

Ecological Services
Montana Field Office
585 Shepard Way, Suite 1
Helena, Montana 59601-6287
Phone: (406) 449-5225; Fax: (406) 449-5339



M.17 FHWA (I)
06E11000-2017-B-0008

December 12, 2016

Jon Schick
HDR, Inc.
700 SW Higgins Avenue, Suite 200
Missoula, MT 59803-1489

Dear Mr. Schick,

Following the August 18, 2016 Resource Agency Meeting regarding the South Avenue Bridge and Maclay Bridge project, Mike McGrath, of my staff, committed to coordinating comments with Montana Fish, Wildlife and Parks (MFWP). Both projects cross the Bitterroot River in Missoula County, Montana. Our comments are prepared under the authority of, and in accordance with, the provisions of the Migratory Bird Treaty Act (16 U.S.C. 703 *et seq.*), Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d, 54 Stat. 250), the Endangered Species Act (16 U.S.C. 1531 *et seq.*), and the Fish and Wildlife Coordination Act (16 U.S.C. 661 *et seq.*). Our comments do not address the overall environmental acceptability of the proposed action. We offer the following comments for your consideration.

Migratory Bird Treaty Act

We have reviewed the project information and have determined there may be potential effects to migratory birds. The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, and transportation (among other actions) of migratory birds, their eggs, parts, and nests, except when specifically permitted. Because migratory birds build nests on a variety of substrates (e.g., ground, shrubs, trees, structures), the Service recommends the following measures if the proposed work occurs during the breeding season: 1) the cutting or removal of trees or shrubs take place between August 16th and April 30th so as to remove potential nesting surfaces prior to project commencement; 2) the removal of swallow nests as they are built, but prior to egg laying, from any overhead structures that will be removed or impacted.

In addition to the above provisions for the MBTA, it has been noted that osprey (*Pandion haliaetus*) nests may occur at both the Maclay Bridge and South Avenue Bridge sites (Montana Natural Heritage Database 2016). The Service strongly recommends coordinating with MFWP regarding current osprey nest locations near the project area, and determining if the nests belong to the same osprey territory or if they are separate territories. The following options are available to accommodate ospreys under the MBTA:

1. Avoid construction activities when eggs or young are in the nest (April 15 to August 31) because under the MBTA harming or harassing nests with eggs or young is prohibited.
2. Remove the nest when it is not occupied by eggs or young (September 1 to April 14). However, once removed, the nest cannot be reduced to possession.
3. The responsible agency (Missoula County or the Montana Department of Transportation) can apply for a permit from the U.S. Fish and Wildlife Service's Migratory Birds Office in Denver, Colorado to relocate one or both nests to an alternate location.

Bald and Golden Eagle Protection Act

The Service recommends identification of potential bald eagle nests prior to project implementation. The Montana Natural Heritage Program database (MNHP 2016) indicates that bald eagle nests may occur approximately 1 mile from the proposed project. As such, we recommend that you confirm the locations of any eagle nest sites with MFWP. If a nest occurs within 0.5 mile of the project, we recommend that the project comply with the temporary seasonal and distance construction buffers stipulated in the *2010 Montana Bald Eagle Management Guidelines: An Addendum to Montana Bald Eagle Management Plan (1994)*.

The Bald and Golden Eagle Protection Act (BGEPA) prohibits anyone, without a permit issued by the Secretary of the Interior, from taking bald or golden eagles, including their parts, nests, or eggs. The BGEPA provides criminal and civil penalties for persons who take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof. The BGEPA defines "take" as pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb. "Disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagles return, such alterations agitate or bother an eagle to a degree that injures an eagle or substantially interferes with normal breeding, feeding, or sheltering habits and causes, or is likely to cause, a loss of productivity or nest abandonment.

Threatened and Endangered Species

The current list of candidate, proposed, threatened or endangered species, and designated critical habitat occurring in Missoula County, Montana is as follows:

<i>Scientific Name</i>	<i>Common Name</i>	<i>Status*</i>
<i>Lynx canadensis</i>	Canada Lynx	LT, CH
<i>Salvelinus confluentus</i>	Bull Trout	LT, CH
<i>Ursus arctos horribilis</i>	Grizzly Bear	LT
<i>Howellia aquatilis</i>	Water Howellia	LT
<i>Coccyzus americanus</i>	Yellow-billed cuckoo (western pop.)	LT
<i>Calidris canutus rufa</i>	Red Knot	LT
<i>Gulo gulo luscus</i>	Wolverine	P
<i>Pinus albicaulis</i>	Whitebark Pine	C

*LE=Listed as Endangered, LT=Listed Threatened, C=Candidate species for listing, P=Proposed, CH=Designated Critical Habitat

The species list provided above indicates those that may occur in Missoula County, but it is unlikely all of these will occur within your specific project area. Those in the vicinity of the project area likely include the threatened bull trout and their designated critical habitat, and the threatened yellow-billed cuckoo. Based on these species, the Service recommends the following:

Water Quality

- A no-disturbance riparian buffer shall be delineated with visible markers along the north edge of O'Brien Creek through the project area to protect the stream corridor during project implementation. Where possible, this buffer shall be a minimum of 50 ft. An exception is where the current road shoulder lies within 50 ft of the stream. In this case, no existing woody vegetation along the stream shall be disturbed and the buffer shall be expanded once the existing road prism is removed and relocated.
- Stormwater facilities for the proposed South Avenue Bridge should be designed such that return flow potential to O'Brien Creek and Big Flat Ditch be eliminated or minimized through buffers and/or appropriate sloping.
- Ensure best management practices for erosion control are applied to this project, including, but not limited to:
 - Install and maintain appropriate BMPs to prevent erosion and sediment transport;
 - Reseed and revegetate all disturbed areas with desirable vegetation;
 - Stabilize disturbed channel banks using appropriate BMPs; and
 - Conduct work to minimize disturbance to riparian vegetation.
- Collect and dispose of all waste fuels, lubricating fluids, herbicides, and other chemicals in accordance with all applicable laws, rules and regulations to ensure no adverse environmental impacts will occur. Inspect construction equipment daily to ensure hydraulic, fuel and lubrication systems are in good condition and free of leaks to prevent these materials from entering any stream. Locate vehicle servicing and refueling areas, fuel storage areas, and construction staging and materials storage areas to ensure that spilled fluids or stored materials do not enter any stream.
- Structures designed to minimize sediment and pollutant runoff from sensitive areas such as settling ponds, vehicle and fuel storage areas, hazardous materials storage sites, erosion control structures, and coffer dams should be visually monitored daily, especially following precipitation events, to ensure these structures are functioning properly. These structures should also be sized appropriately to handle foreseeable events (e.g., thunderstorms).
- Any detention basin outlets will be designed such that they are stabilized to prevent streambank erosion and will not otherwise impact the stream channel bank.
- The contractor will dispose of drill cuttings in areas in a manner which will not adversely affect federally listed species and/or designated critical habitat. Barge debris will be captured and/or contained to prevent material from entering the channel.
- Contractor-provided sites, including, but not limited to staging areas, material sources, and fill sites, will not adversely affect listed species or their designated critical habitats.

Timing

- Bull trout are likely to be in this reach between October 1st and June 15th. The Bitterroot River is typically too warm for bull trout July through September. As such, the Service recommends an instream work window of July 1 through September 30th.
- Yellow-billed cuckoos have been known to occur in proximity to the project area. However, they are not known to nest in Montana, and any yellow-billed cuckoos are likely transient migrants. As such, the Service recommends that the project adjust its timing to avoid disruption of individual yellow-billed cuckoos within riparian areas from June 1 through July 31. We realize that this would likely reduce the project's instream operating window to August 1 through September 30. To potentially regain portions of the instream operating window, we recommend conducting full protocol surveys for yellow-billed cuckoos in the year prior to construction. Once there is a full protocol survey effort, the results of the effort will help form the basis for an effects determination. If the surveys document presence, and potential breeding could be inferred, due to the species' site fidelity, the June and July exclusionary window would likely stand. However, if surveys indicate transient migrants or no presence, and it can be supported that disturbance won't affect a migrant's ability to shelter and/or feed, there would likely be more flexibility on a work window.

Bridge Construction

- To reduce the effects of impact pile driving, the Service recommends that the new bridge utilize drilled shafts for piers and abutments, rather than impact-driven piles.
- To minimize effects to overwintering and migrating bull trout, the Service recommends that impact pile driving for the construction of temporary and permanent facilities that has not been attenuated for noise occur between July 1 and September 30, provided that it can be established that yellow-billed cuckoos in the area are either transient migrants or are not present, and that it can be supported that disturbance won't affect a migrant's ability to shelter and/or feed. This work includes dry land and in-water impact pile driving.
- To minimize the risk of barotraumas and fish mortality from driving piles for construction of the new bridge and any temporary work bridges outside the above time period:
 - Use a vibratory hammer to drive piles to such a point when an impact hammer will be required to drive the pile to the point of refusal OR;
 - Initiate impact hammer pile-driving of each pile with lower hammer strokes than are required for the initial six strikes to encourage fish to vacate the surrounding area, and use the National Marine Fisheries Service Calculator Tool to determine how many pile strikes can occur during a day, based on pile type and size, prior to the thresholds being attained. Once the number of strikes has been attained, impact pile driving must be stopped for the day. If driving pile with an impact hammer over consecutive days, do not drive piling between the hours of 9:00 PM and 6:00 AM. OR;
 - Use MDT-approved noise reduction methods, such as those offered in Leslie and Schwertner (2013) (e.g., bubble curtain, cofferdams) AND;
 - Conduct hydroacoustic monitoring. Through hydroacoustic monitoring, should it be determined that the physical harm thresholds of the peak sound pressure level (SPL) OF 206 dB (re: 1 μ Pa), or the cumulative sound exposure level (SEL) of 187 dB (re: 1 μ Pa) for fish > 2 g, or 183 dB (re: 1 μ Pa) for fish < 2 g have been attained or

exceeded, impact pile driving must be stopped for the day, with impact pile driving permitted to commence the next morning.

- In-stream work conducted within the channel should be kept to the minimum amount necessary, preferably during periods of low flow. This includes, but is not limited to, construction and removal of any coffer dams that may be needed for the driving and removal of pilings for any temporary support structures that may be necessary. In-stream construction work should be completed in the shortest amount of time possible.
- Any temporary work or detour bridges necessary at these crossings should clear span the stream channel, if possible. No construction equipment should be allowed to operate within the active channel of any stream unless permitted to do so. If at all possible, schedule instream construction activities such that as many of the necessary construction activities as possible occur “in the dry.”
- Materials excavated from inside any coffer dams or drilled shafts shall not enter any waterbody, and if so, will be removed.
- De-watering activities will require that the effluent be pumped to an upland detention area that will allow for the sediments to separate out and water infiltrate into the groundwater system.
- The Service also recommends that the disturbance footprint from construction be limited to the right-of-way.
- All disturbed areas should be revegetated with woody plants and native grasses.

Bridge Removal

- Instream removal of bridge piers should occur during low water (July 1 through September 30).
- To the maximum extent possible, disassemble the existing bridge superstructure and remove without pieces being allowed to fall into the stream. If portions of the old bridge do fall into the stream during demolition, they will be removed from the stream without dragging the material along the streambed, and will be removed within two days. Any blasting that is required should be contained to the maximum extent possible by using some typed of containment shielding device to attenuate the blast’s pressure wave in the water and to prevent debris from entering the stream.
- Once the Maclay Bridge has been removed, the Service recommends that:
 - The channel constriction associated with the west bank of the river at the Maclay Bridge be removed, as this may alleviate some of the bank erosion problems occurring further downstream.
 - A more naturalized cross-section of the river be re-established to partially offset effects from installation of a new bridge at the end of South Avenue; and
 - Stream banks and riparian areas currently occupied by the Maclay Bridge be restored and revegetated.

Under the Endangered Species Act (ESA) a federal agency that authorizes, funds, or carries out a proposed action is required to evaluate the action with respect to effects to threatened or endangered species and critical habitat. If the federal agency, or its delegated agent, determines that the action “may affect” listed species and/or designated critical habitat, the federal agency is required to enter into section 7 consultation with the Service. It is the responsibility of the federal agency to ensure that its actions are in compliance with the ESA. Further technical assistance can be provided if you have additional questions regarding project impacts to listed species, or future ESA responsibilities.

Fish and Wildlife Coordination Act

Under the Fish and Wildlife Coordination Act (FWCA) and its amendments, consultation with the Service and the fish and wildlife agencies of States where any body of water is controlled or modified by any Federal agency. Because a Clean Water Act permit will be required for the Federal Highway Administration to construct the new bridge and remove the existing bridge, the FWCA is applicable in this situation.

The westslope cutthroat trout (*Oncorhynchus clarkii lewisi*) is a fish native to Montana that has been classified by Montana Fish, Wildlife and Parks as a Species of Greatest Conservation Need, and has previously been petitioned for listing under the Endangered Species Act. The mouth of O'Brien Creek serves as a consistent staging and congregation area for migratory trout. As a result, the Service recommends:

- Instream and stream bank disturbance be minimized at the mouth of O'Brien Creek and for 100 meters downstream along the northwest bank of the Bitterroot River.
- If pier location or anticipated instream work associated with the final bridge design occurs within this area, further consultation and coordination with Montana Fish, Wildlife and Parks and the Service occur in order to avoid and minimize adverse effects.

Additional Guidance

In addition to coordination with the Service, we recommend coordination with Montana Fish, Wildlife and Parks and the Montana Natural Heritage Program. These agencies may be able to provide updated, site-specific information regarding eagle and other raptor nests, as well as all other fish, wildlife, and sensitive plant resources occurring in the proposed project area. Contact information for these two agencies is below:

Montana Fish, Wildlife and Parks
1420 East Sixth Avenue
P.O. Box 200701
Helena, Montana 59620-0701
Phone: (406) 444-2535

Montana Natural Heritage Program
1515 East 6th Avenue, Box 201800
Helena, Montana 59620-1800
Phone: (406) 444-5354.

Thank you for the opportunity to comment on the South Avenue Bridge and Maclay Bridge project. The Service appreciates your efforts to incorporate fish and wildlife resource concerns into your project planning. If you have further questions related to this issue, please do not hesitate to contact Mike McGrath at mike_mcgrath@fws.gov or (406) 449-5225, extension 201.

Sincerely,



for Jodi L. Bush
Field Supervisor

cc: Heidi Bruner, Federal Highway Administration, Helena, MT
Nathan Green, U.S. Army Corps of Engineers, Missoula, MT
Joe Weigand, Montana Department of Transportation, Helena, MT
Ladd Knotek, Montana Fish, Wildlife and Parks, Missoula, MT