



County of Siskiyou Staff Report

Lower Klamath Hydroelectric Decommissioning Project

June/July 2023

The purpose of this staff report is to inform the Board of Supervisors and the public of the Lower Klamath Hydroelectric Decommissioning Project's (Project) progress every month. The report also includes an update on the County Staff's involvement in the Project, as well as an outline of upcoming activities. While not all areas of interest or concern may be addressed in this report, any questions, comments, or concerns can be directed to the County's email address for the project: lkinfo@co.siskiyou.ca.us.

Project Progress

As a reminder, the Federal Energy Regulatory Commission (FERC) has encouraged KRRC and their contractors to endeavor to comply with local ordinances and permits, although this was not a requirement through the FERC Order. To the extent that local laws or permitting requirements make compliance with FERC's Order impossible or unduly difficult, FERC concluded that such local requirements are preempted. County Staff have been working closely with KRRC and their contractors to urge permit application submittals and good neighbor policies, particularly for those permits that are related to public safety (such as transportation and encroachment permits). For those activities that may be exempt through the FERC Order, County Staff has asked for a written factual/legal justification for why County permits are preempted.

Below is an outline of the major Project activities that have occurred in June and July 2023. Photos of recent Project Activities are included in Appendix A.

- KRRC sent an amended letter to dock owners on Copco Lake for removal of docks by October 30.
- Cultural and biological site surveys continuing within the Project Area.
- Flow management coordination for pre-drawdown period is ongoing.
- Continued ground water well monitoring.
- Water Quality protection plans for pre-drawdown in-water work is in progress for the State Water Board.
- FERC Dam safety preparedness actions are on-going.
- Preparation of City of Yreka Waterline Workplans
- Completed the following construction activities at Copco 1:
 - Maintenance and Support Facilities
 - Access Road Improvements
 - Dam Access and Workpad
 - Construction of the low-level outlet.
- Completed the following construction activities at Copco 2:
 - Intake Closure and Dam Removal
 - Remove Diversion Dam and restoration Volitional Passage Channel
- Completed the following construction activities at Copco 2 Village Area:
 - Completed installation of Daggett Bridge decking and abutments
 - Completed RV Park
 - Began construction of Fall Creek Culvert replacement
 - Finished cultural and biological site surveys for construction activities



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- Managed Vegetation for Fire Protection
- Maintained Temporary BMPs
- Completed the following construction activities at Iron Gate Dam:
 - Begin construction of Iron Gate Outlet Tunnel modifications.
 - Demolition of three fish holding ponds at the base of Iron Gate Dam. This will provide access to the diversion tunnel.
 - Initial construction of the temporary bridge over the fish ladder.
 - Construction of the access pad to the tunnel face.

Recent FERC Actions

FERC filings related to the Project that occurred at the end of May through the end of July are summarized in Table 1 and included in Appendix B of this report.

County Actions

As a reminder, The Klamath Project Manager (PM) position was contracted at the end of February to help support the County with the Project. The PM has been working with County Staff to reduce their workload on the project by establishing herself as the County's main point-of-contract (POC) for KRRC, their contractors, and stakeholders (such as the California Department of Fish and Wildlife) for the Project. The County continues to have regularly scheduled update meetings with KRRC and their contractors. Specific topic meetings (i.e., roads and bridges, etc.) have been scheduled in June/July, and will continue throughout the life of the Project as the need arises. Table 2 outlines the County Project activities performed in June/July 2023.

Table 2. County Project Activities – June/July 2023

Dept. / Staff	Activity	Involved Parties	Status
Community Development	Review of updated signage permit.	Project Wide	July
Public Works	Review of encroachment permits for project signage	Project Wide	July
Public Works	Road maintenance survey along Copco Road	Kiewit & County Staff	June
PM	Creation of County Permit Table which will track the submittal, review, and approval (or denial) of each local permit.	PM	Ongoing
PM	Project-wide permit table updates to the County. This is in lieu of Camas and McMillen providing on a bi-weekly call.	PM	Ongoing
PM	Weekly project/permit update calls with McMillen	PM	Ongoing
PM	Attending agency update meetings hosted by McMillen	PM	Ongoing
PM	Completion of a Floodplain Memo for the Board of Supervisors and the Public.		
PM, PIO	Creation of Project public information materials	PM & County Staff	Ongoing
Public Works	Continuing to review and approve transportation permits, only if the over-dimension loads and extra-legal weight loads fall within the un-shored capacity of both Fall Creek and Dry Creek Bridges. Those in	Public Works	Ongoing



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excess (i.e., what the shored bridges are designed to), will not be approved until the bridges are updated.

Upcoming Activities - August 2023

Table 3 summarizes the upcoming Project-level and County-specific activities that are proposed to occur in August 2023.

Table 3. Upcoming Project & County Activities – August 2023

Responsible Party	Activity	Location	Date
KRRC Contractors	Project signage to be installed along roadways within the Project boundary once signage plan is approved by the County.	Project Wide	August
KRRC Contractors	Cultural and biological site surveys for construction activities	Project Wide	Ongoing
KRRC Contractors	Water Quality Monitoring	Project Wide	Ongoing
KRRC Contractors	Develop visitors viewing area below Iron Gate Dam	Project Wide	August
KRRC Contractors	Implement Dam Safety and Vibration Monitoring for Copco 1	Copco 1	August
KRRC Contractors	Complete Copco No. 2 Dam Removal to Foundation	Copco 2	August
KRRC Contractors	Initiate Copco No. 2 penstock removal	Copco 2	August
KRRC Contractors	Initiate Copco No. 2 Penstock Removal	Copco 2	August
KRRC Contractors	Complete Copco No. 2 Powerhouse Facilities Termination and Handover	Copco 2	August
KRRC Contractors	Maintain temporary RV park	Copco 2 Village	August
KRRC Contractors	Complete Fall Creek Culvert work	Copco 2 Village	August
KRRC Contractors	Install dry hydrants	Copco 2 Village	August
KRRC Contractors	Water Quality Monitoring	Copco 2 Village	August
KRRC Contractors	Initiate construction of the City of Yreka Waterline	Yreka Waterline	August
KRRC Contractors	Construct tunnel access pad	Iron Gate	August
KRRC Contractors	Close blind flange	Iron Gate	August
KRRC Contractors	Perform gate testing	Iron Gate	August
KRRC Contractors	Tunnel modification works – new vent line and baffle blocks	Iron Gate	August
KRRC Contractors	Private docks removal deadline	Copco Reservoir	October 30
KRRC Contractors	Fall and Dry Creek Bridge Rating Calculations	Fall/Dry Creek Bridges	August
PM	Create FERC Preemption Form to record any project preemption activities initiated by KRRC & their Contractors	Project Wide	August
PM	Weekly update calls with KRRC Contractors	Project Wide	Ongoing
PM, Public Information Officer (PIO) & Supervisors	Bi-weekly update call with Supervisor Criss & Supervisor Haupt	Project Wide	Ongoing
PM, PIO, and KRRC PIO	Bi-weekly call to discuss upcoming public announcements	Project Wide	Ongoing
Community Development	Review of updated Project signage plan.	Project Wide	August
Public Works	Review of encroachment permits for sign installation	Project Wide	August



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Public Works, PM, KRRC Contractors	Meeting to Discuss Fall and Dry Creek Bridges & rating calculations	Fall/Dry Creek Bridges	August
OES, PM, PIO, McMillen & Kiewit	Wildfire safety and emergency action plan meeting.	Project Wide	August/September
Community Development	Approval of septic pumping standard operating procedures.	Copco Village	August

Fish Hatchery Project Progress

As a reminder, the construction activities that are occurring as part of the relocation of the Iron Gate Fish Hatchery to the Fall Creek location, while associated with the Project, are not being completed by KRRC or their contractors. Per the FERC Order, the removal of the facilities at Iron Gate, and new build at Fall Creek is the responsibility of PacifiCorp. PacifiCorp will retain ownership of the lands occupied by the Fall Creek Hatchery, with the California Department of Fish and Wildlife (CDFW) leasing the lands and facilities need to operate the hatchery (see FERC Order, page 61, Section HH, Subsection II).

Below is an outline of the major activities that have occurred as part of the fish hatchery relocation project over the past two months:

- Site excavation continued for pipe trenches. Pipes for the hatchery were placed.
- Roof placed on meter vault. Torque testing was completed on the spools.
- Began Pre-Engineered Metal Building (PEMB) and cofferdam installation for construction of Coho Raceways and Coho Building footings near Fall Creek.
- Began PEMB installation.
- Concrete placed for Raceway Banks #5 through #8 at the Chinook Raceways.
- Completed building foundation at the Spawning Building.
- Placed backfill at the adult holding ponds.
- Cofferdam was placed at the fish barrier/ladder. Concrete for barrier slab, fish ladder, and retaining walls was installed.

Upcoming Fish Hatchery Activities

- Continue to excavate pipe trenches and place piping.
- Place piping from meter vault to raceways. Install Meter Vault walkways.
- Place cofferdam to construct remaining footings and grade beams.
- Place cofferdam to construct new Coho Raceways.
- Place roof panels, finalize electrical room, and install final trim at the Chinook Incubation Building.
- Continue formwork and place concrete in walls in Raceway Banks #1 through #4 at the Chinook Raceways.
- Backfill footings and place footings for overhang at the Spawning Building.
- Complete formwork and place concrete at the adult holding ponds.
- Finish placing downstream riprap at the fish barrier/ladder.



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Floodplain Memo:

Based on feedback from both the Board of Supervisors and the public during the spring meetings, and after presentations by the Klamath Mitigation Fund, a memo was drafted by the County Project Manager to address concerns regarding the anticipated 100-year floodplain. The memo outlines the difference between the modeling efforts conducted by the United States Bureau of Reclamation (BOR) in 2012, and the floodplain mapping efforts that will be conducted by the Federal Emergency Management Agency (FEMA) after dam removal and restoration. The full memo can be found in Appendix C.

Additional Information:

- Klamath Dam Removal Special Meetings will be on hold until September 2023.
 - Information can still be found on the County's Klamath Dam Decommissioning Website (<https://www.co.siskiyou.ca.us/naturalresources/page/klamath-dam-decommissioning-project>).
- We will continue to create staff reports for the Board and the Public which can be accessed on the website.
- Additional important project information (such as upcoming activities, anticipated heavy traffic, etc.) will be communicated through social media, posted in public locations (such as community centers, grocery stores, etc.).
- Any questions or concerns related to the project, please reach out to us via email: lkdinfo@co.siskiyou.ca.us.

Previous information about the Project, including prior Special Board Meeting Staff Reports are available at the [County's Klamath Dam Decommissioning Website](#). For ease of use, a quick link button directing users to the Project page has been added to the County's main landing page.



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Appendix A. Project Photos



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Access roads from the waste disposal areas to the river have been completed. Copco No. 2 Dam has been removed to the foundation. Temporary access road and bridges have been constructed around the Copco No. 1 powerhouse. Workpad at the base of Copco No. 1 dam has been constructed.



Aerial view showing temporary access road around the powerhouse and the work pad at the base of Copco No. 1 dam.



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Jim Bob bridges provide access across the river and around the Copco 1 Powerhouse.



Work pad at the base of Copco No. 1 Dam.



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Copco No. 2 dam (foreground) and historic wooden diversion structure (background) after facility termination and handover but before demolition began.



Copco No. 2 dam demolition progress.



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Aerial view showing progress on Copco No. 2 demolition at the end of June. The dam has been removed down to the foundation and removal will continue through the month of July. Note that the historic wooden diversion structure is completely removed in the background.



Aerial view showing Copco No. 2 village area and Daggett Bridge.



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Daggett Bridge after installing the decking. Remaining abutment walls have been poured at each end.



Access roads to the Copco No. 2 steel penstocks have been pioneered to facilitate demolition.



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City of Yreka Waterline alignment has been cleared and grubbed and pipe laid out.



Construction started on the Fall Creek Culvert replacement. Shoefly road was constructed to route traffic around the work area.



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Initial construction of the temporary bridge over the fish ladder at Iron Gate Dam.



Access pad to the tunnel face at Iron Gate Dam has been constructed.



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Fall Creek Hatchery progress. Placed concrete for Chinook raceways banks #5 through #8. Began erecting Chinook Incubation PEMB. Fish Ladder and Fish Barrier concrete placed.



Coho Building – PEMB Erection



Chinook Incubation Building



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Fish Barrier and Ladder – Fall Creek Hatchery



Fall Creek Hatchery – Fish Ladder



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Appendix B. Recent FERC Filings



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Table 1. Recent Project Actions Submitted Through FERC's eLibrary

Date	Title	File	Description	Link
5/23/2023	Project Operations Compliance Report	KRRC	Klamath River Renewal Corporation submits Response to FERC's May 4, 2023, letter re Construction, Removal, and Decommissioning Partial Authorization for the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230523-5145
5/23/2023	BOC Onboarding Review and KRRC Responses, Lower Klamath Project	FERC	Letter to Klamath River Renewal Corporation et al providing comments on the Board of Consultants Onboarding Review etc. for the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230523-3079
5/23/2023	May 3, 2023 Public Safety Incident Report, Copco No. 2 Development, Lower Klamath Project	FERC	Letter acknowledging and commenting on a report made to FERC about an incident at the Copco No. 2 Development of the Lower Klamath Project, FERC No. 14803. The incident involved a concrete truck that rolled over while traveling around a tight road corner on May 3, 2023.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230523-3078
5/24/2023	Environmental and Recreational Compliance Report	KRRC	Klamath River Renewal Corporation submits Final February 2023 Monthly Report for the California Water Quality Monitoring Plan for the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230524-5033
5/24/2023	Dam Safety Compliance Report	KRRC	Klamath River Renewal Corporation submits Response to FERC's April 27, 2023, Letter re the Pre-Drawdown Owner's Dam Safety Program for the Lower Klamath Hydroelectric Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230524-5233
5/31/2023	Part 12 Consultant Safety Inspection Reports	KRRC	Klamath River Renewal Corp. submits Response to FERC's May 23, 2023, Letter re Board of Consultant's Member Paul Schweiger's April 5, 2023, Onboarding Report for the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230531-5365
6/06/2023	Compliance Directives General Correspondence FERC Correspondence With Government Agencies	FERC	Letter to Klamath River Renewal Corporation et al providing comments on the Pre-Drawdown Partial Construction Authorization responses to comments from FERC's May 4, 2023, letter etc. for the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230606-3043
6/07/2023	FERC Correspondence With Government Agencies General Correspondence Compliance Directives	FERC	Letter to Klamath River Renewal Corporation et al providing comments on the response to FERC's April 27, 2023, letter re the Pre-Drawdown Owner's Dam Safety Program for the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230607-3072



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6/09/2023	Progress Report	KRRC	Klamath River Renewal Corporation submits Monthly Construction Progress Report for May 2023, for the California Terrestrial and Wildlife Management Plan of the Lower Klamath Hydroelectric Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230609-5051
6/13/2023	Dam Safety Compliance Report	KRRC	Klamath River Renewal Corporation submits Response to April 27, 2023, FERC Letter re Drawdown Owner's Dam Safety Program for the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230613-5158
6/14/2023	Progress Report	KRRC	Klamath River Renewal Corporation submits March 2023 Final Monthly Report for the California Water Quality Monitoring Plan for the Lower Klamath Hydroelectric Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230614-5014
6/15/2023	Environmental and Recreational Compliance Report	KRRC	Klamath River Renewal Corporation submits Initial Monthly Report for May 2023, for the California Water Quality Monitoring Plan for the Lower Klamath Hydroelectric Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230615-5066
6/15/2023	Progress Report	KRRC	Klamath River Renewal Corporation submits May 2023 Monthly Construction Progress Report for the Lower Klamath Hydroelectric Project under P-14803. This is a non-public document.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230615-5106 ; https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230615-5107
6/15/2023	Compliance Directives General Correspondence FERC Correspondence With Government Agencies Delegated Order	FERC	Letter to Klamath River Renewal Corporation et al providing comments on the protocols for submitting individual blasting plans to support pre-drawdown decommissioning activities for the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230615-3110
6/16/2023	Government Agency Submittal	CA SWRCB	California State Water Resources Control Board submits Approval of Amended Fall Creek Hatchery Water Quality Monitoring and Protection Plan for the Lower Klamath Project License Surrender under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230616-5008
6/16/2023	Government Agency Submittal	CA SHPO	Comments of California State Historic Preservation Office re Section 106 consultation for the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230616-5128
6/20/2023	Project Operations Compliance Report	KRRC	Klamath River Renewal Corporation submits Amended Water Quality Monitoring and Protection Plan for the Fall Creek Fish Hatchery Construction of the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230620-5005
6/20/2023	Dam Safety Compliance Report	KRRC	Klamath River Renewal Corporation submits Response to FERC's April 27, 2023, comments re Chief Dam Safety Engineer for Pre-Drawdown Owners Dam Safety Program for the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230622-5118



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6/28/2023	General Correspondence FERC Correspondence With Government Agencies	FERC	Letter to Klamath River Renewal Corporation et al providing comments on the responses to FERC's April 27, 2023, letter providing comments on the Drawdown Period Owner's Dam Safety Program etc. for the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230628-3084
6/30/2023	Part 12 Consultant Safety Inspection Reports	KRRC	Klamath River Renewal Corporation submits Response to FERC's May 23, 2023, Comment No. 3, re Board of Consultant's Member Paul Schweiger's April 5, 2023, Iron Gate Low Level Outlet Orifice for the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230630-5127
6/30/2023	Project Operations Compliance Report	KRRC	Klamath River Renewal Corporation submits Historic Properties Management Plan Progress Report for the Lower Klamath Hydroelectric Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230630-5319
6/30/2023	Environmental and Recreational Compliance Report	KRRC	Klamath River Renewal Corporation submits U.S. Fish and Wildlife Service Special Purpose, Miscellaneous Permit for Lower Klamath Hydroelectric Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230630-5331
7/05/2023	Dam Safety Compliance Report	KRRC	Klamath River Renewal Corporation submits Response to FERC's June 6, 2023, letter requesting a Plan and Schedule for Semi-Quantitative Risk Assessment for the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230705-5069
7/05/2023	Application To Amend License or Exemption	PacifiCorp	PacifiCorp submits Application for Non-Capacity Amendment of License and Request for Expedited Approval for the Klamath Hydroelectric Project under P-2082.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230705-5175
7/06/2023	Dam Safety Compliance Report	KRRC	Klamath River Renewal Corporation submits Updated Plan and Schedule in response to FERC's June 8, 2023, letter re the 2020 Tainter Gate Inspection Report for the Iron Gate Development, et al. of the Lower Klamath Hydroelectric Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230706-5057
7/06/2023	Project Operations Compliance Report	KRRC	Klamath River Renewal Corporation submits Plan and Schedule for Facilities Termination Plans in response to FERC's June 7, 2023, letter for the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230706-5063
7/06/2023	Dam Safety Compliance Report	KRRC	Klamath River Renewal Corporation submits Request for Concurrence to forgo the Annual Dam Survey for the J.C. Boyle Hydroelectric Development, et al. under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230706-5066
7/07/2023	Government Agency Submittal	CA SWRCB	California State Water Resources Control Board submits Letter of Approval of the Outlet Tunnel Access at Iron Gate Dam Water Quality Monitoring and Protection Plan for the Lower Klamath Project License Surrender under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230707-5088



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7/10/2023	Progress Report	KRRC	Klamath River Renewal Corporation submits Monthly Construction Progress Report for June 2023, for the California Terrestrial and Wildlife Management Plan of the Lower Klamath Hydroelectric Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230710-5088
7/12/2023	Correspondence With Government Agencies	FERC	Letter to Klamath River Renewal Corporation discussing the protocols for submitting individual Copco No. 1 audit /low-level outlet blasting plans to support pre-drawdown decommissioning activities for the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230712-3033
7/13/2023	Part 12 Consultant Safety Inspection Reports	KRRC	Klamath River Renewal Corporation submits Updated 2023 Part12D Safety Inspection Report, including Supporting Technical Information Document for the J.C. Boyle Development, et al. of the Lower Klamath Hydroelectric Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230713-5068
7/13/2023	Part 12 Consultant Safety Inspection Reports	KRRC	Klamath River Renewal Corporation submits Part12D Safety Inspection Report, including Updated 2023 Supporting Technical Information Document for the Iron Gate Development of the Lower Klamath Hydroelectric Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230713-5070
7/14/2023	Environmental and Recreational Compliance Report	KRRC	Klamath River Renewal Corporation submits Initial June 2023, Monthly Report for the California Water Quality Monitoring Plan for the Lower Klamath Hydroelectric Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230714-5015
7/17/2023	Progress Report	KRRC	Klamath River Renewal Corporation submits Monthly Construction Progress Report for June 2023, for the Lower Klamath Hydroelectric Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230717-5018
7/17/2023	Progress Report	KRRC	Klamath River Renewal Corporation submits Monthly Construction Progress Report for June 2023, for the Lower Klamath Hydroelectric Project under P-14803. This is a non-public document.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230717-5017
7/17/2023	Dam Safety Compliance Report	KRRC	Klamath River Renewal Corporation submits Copco No. 1 Low Level Outlet Tunnel and Diversion Tunnel Plug Removal Blasting Plan for the Lower Klamath Hydroelectric Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230717-5059
7/17/2023	Dam Safety Compliance Report	KRRC	Klamath River Renewal Corporation submits Copco No. 1 Low Level Outlet Tunnel and Diversion Tunnel Plug Removal Blasting Plan for the Lower Klamath Hydroelectric Project under P-14803. This is a non-public document.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230717-5058
7/19/2023	Compliance Directives General Correspondence	FERC	Letter to Klamath River Renewal Corporation et al providing comments on the proposal to refrain from performing alignment surveys for the Iron	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230719-3080



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	Correspondence With Government Agencies		Gate, Copco No.1, and J.C. Boyle Developments of the Lower Klamath Project under P-14803.	
7/19/2023	Compliance Directives General Correspondence Correspondence With Government Agencies	FERC	Letter to Klamath River Renewal Corporation et al providing comments on the updated plan and schedule addressing the 2020 Tainter Gate Inspection Report Recommendations for the J.C. Boyle Development of the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230719-3082
7/19/2023	General Correspondence	FERC	Letter to Klamath River Renewal Corporation et al acknowledging the plan and schedule for the dates of Facilities Termination etc. for all Developments of the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230719-3081
7/20/2023	Formal Notice	FERC	Notice of Application for Non-capacity Amendment of License Accepted for Filing, Soliciting Comments, Motions to Intervene, and Protest re PacifiCorp under P-2082.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230720-3006
7/27/2023	Government Agency Submittal	CA SWRCB	California State Water Resources Control Board submits Letter of Approval of Amended Water Quality Monitoring and Protection Plan for Dry Hydrant and Boat Ramp Installation for the Lower Klamath Project License Surrender under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230727-5103
7/27/2023	Part 12 Consultant Safety Inspection Reports	KRRC	Klamath River Renewal Corporation submits Supplemental response to FERC Comment re Iron Gate Low Level Outlet Orifice for the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230727-5140
7/27/2023	Part 12 Consultant Safety Inspection Reports	KRRC	Klamath River Renewal Corporation submits Supplemental Response to FERC Comment re Iron Gate Low Level Outlet Orifice for the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230727-5170
7/28/2023	Project Operations Compliance Report	KRRC	Klamath River Renewal Corporation submits Termination Plan and Supporting Documents for the Copco No. 2 Dam of the Lower Klamath Project under P-14803.	https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20230728-5039



County of Siskiyou Staff Report
Lower Klamath Hydroelectric Decommissioning Project
June/July 2023

Appendix C. Floodplain Memo

Memorandum

DATE: June 30, 2023
TO: The Siskiyou County Board of Supervisors
FROM: Chelsea Murphy, CKM Environmental
SUBJECT: Klamath Dam Removal Project – Anticipated 100-year Floodplain

I. INTRODUCTION AND BACKGROUND

The County has received many questions from the public regarding the Klamath River floodplain. Based on information from the California State Water Resources Control Board (SWRCB) Final Environmental Impact Report (FEIR) the floodplain maps for the “new” floodplain are based on anticipated and estimated changes to the floodplain following dam removal. To evaluate the impacts on the Klamath floodplain, the SWRCB in the FEIR and the Federal Energy Regulatory Commission (FERC) in the Final Environmental Impact Statement (FEIS)¹ utilized hydrologic and hydraulic modeling to estimate the changes in the 100-year Federal Emergency Management Agency (FEMA) floodplain. This modeling effort is not the final FEMA 100-year floodplain.

It is the County’s understanding through review of the environmental documentation that the new 100-year floodplain will not be established by FEMA until after dam removal and restoration activities related to removal are completed. As described in Volume I of the FEIR *Potential Impact 3.6-3*, the final determination of the extent of the future 100-year floodplain following dam removal would be made by FEMA (pages 3-630 to 3-633). According to the FEIR, the KRRC is planning to coordinate with Siskiyou County and FEMA to initiate the map revision process (Volume III page 2-106). The definitions of FEMA Flood Zone Designations can be found [here](#), and the mapping process in which FEMA uses to define Flood Zones can be found [here](#).

The modeled 100-year floodplain inundation used in the environmental documents was completed by the United States Bureau of Reclamation (BOR) in 2012 and updated in the 2018 Draft EIR (DEIR) by Stillwater Sciences using a flood frequency analysis with the most recently (then 2017) published USGS streamflow data (DEIR Table 3.6-11, page 3-622). This analysis was used to support the hydrologic and hydraulic modeling of 100-year floodplain inundation, which is presented in Appendix K of the DEIR as modeled floodplain maps (2018) (Attachment A). The 2012 BOR floodplain modeling of floodplain inundation shows that removal of the Lower Klamath Project dams could alter the 100-year floodplain inundation

¹ The SWRCB’s FEIR is titled “Lower Klamath Project License Surrender Final Environmental Impact Report” and FERC’s FEIS is titled “Final Environmental Impact Statement for Hydropower License Surrender and Decommissioning – Lower Klamath Project – FERC Project No. 14803-001 and Klamath Hydroelectric Project – FERC Project No. 2082-063, Oregon and California”.

Memorandum

area downstream of Iron Gate Dam between river mile (RM) 193 and 174 (i.e., from Iron Gate Dam to Humbug Creek) (USBR 2012). Both lead agencies (SWRBC and FERC) recognize that “Sediment deposition may also result in streambed aggradation² that would result in changes to the 100-year floodplain” (page 3-542 of the Final Environmental Impact Statement [FEIS]). Throughout the FEIS, FERC notes that “Streambed aggradation could result in changes to the 100-year floodplain in the first 10 to 20 miles downstream from the Iron Gate Dam site” (page 3-602; page 4-4; etc.).

As stated in the Draft EIR, the BOR models estimated that the discharge of the 100-year peak flood immediately downstream of Iron Gate Dam would increase by up to seven percent following dam removal (Table 3.6-12) and flood peaks would occur about 10 hours earlier. This increased discharge would result in flood elevations that are 1.65 feet higher on average from Iron Gate Dam (RM 193) to Bogus Creek (RM 192.6) and 1.51 feet higher on average from Bogus Creek to Willow Creek (RM 188). The impact of dam removal on flood peak elevations would decrease with distance downstream of Iron Gate Dam, and the BOR and KRRC estimated that there would be no significant effect on flood elevations downstream of Humbug Creek (RM 174) because flow attenuation would occur in the mainstem channel and tributary peak flows would not coincide with the peak flow downstream of RM 193 (i.e., current location of Iron Gate Dam) (DEIR, page 3-630).

II. CONCLUSION

Despite all the modeling, the newly established flood zones (including the 100-year) will be established by FEMA after dam removal and restoration is completed. This is because sediment transport and deposition will occur naturally after removal, and grading work conducted during restoration of the reservoirs may alter the Klamath River floodplain. Therefore, the new floodplain will likely not be established until mid-to-late 2025. To better explain how the flood zone mapping process is completed, as well as how it will be done for the Klamath Dam Removal Project, the County will be inviting experts from FEMA to present at an upcoming Board meeting. Specific information regarding a date for this presentation will be shared with the Board and the public once available.

² Aggradation is a term used in geology for the increase in land elevation, typically in a river system, due to the deposition of sediment.



Appendix A.

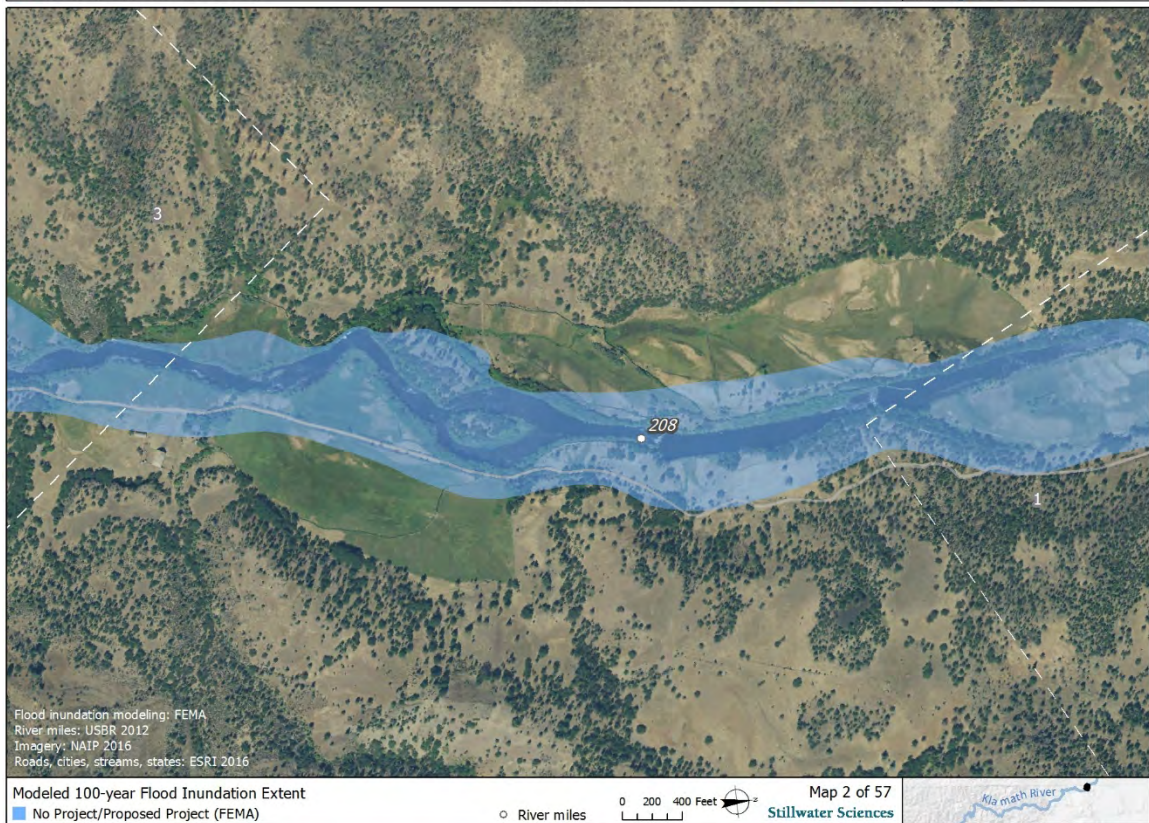
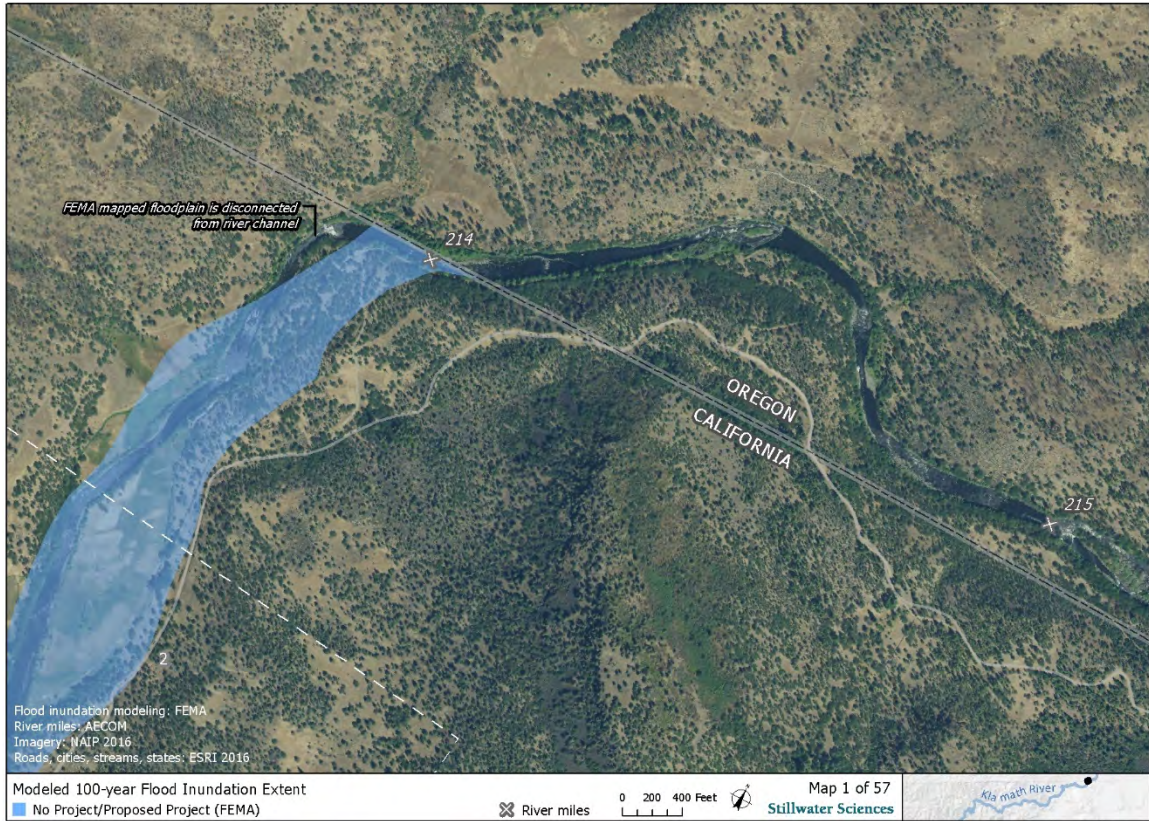
Flood Hydrology
Maps – Appendix K,
DEIR

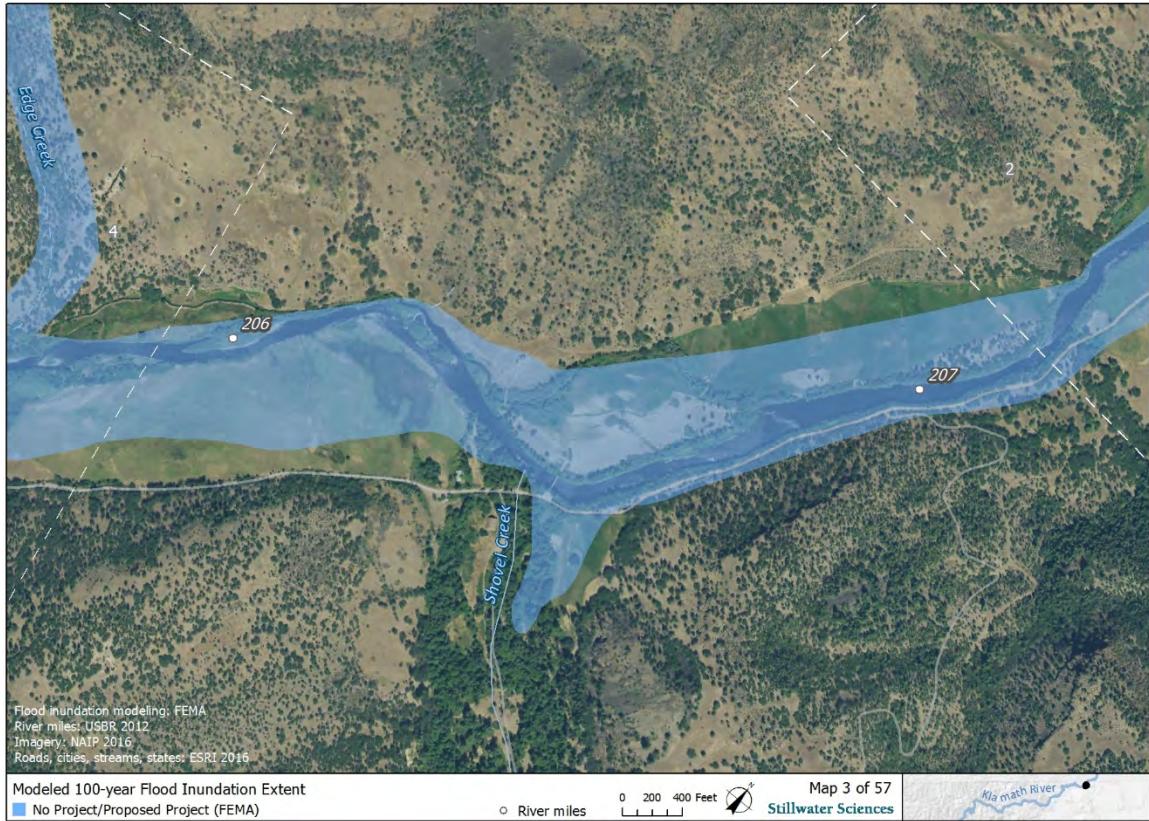
Appendix K
Flood Hydrology

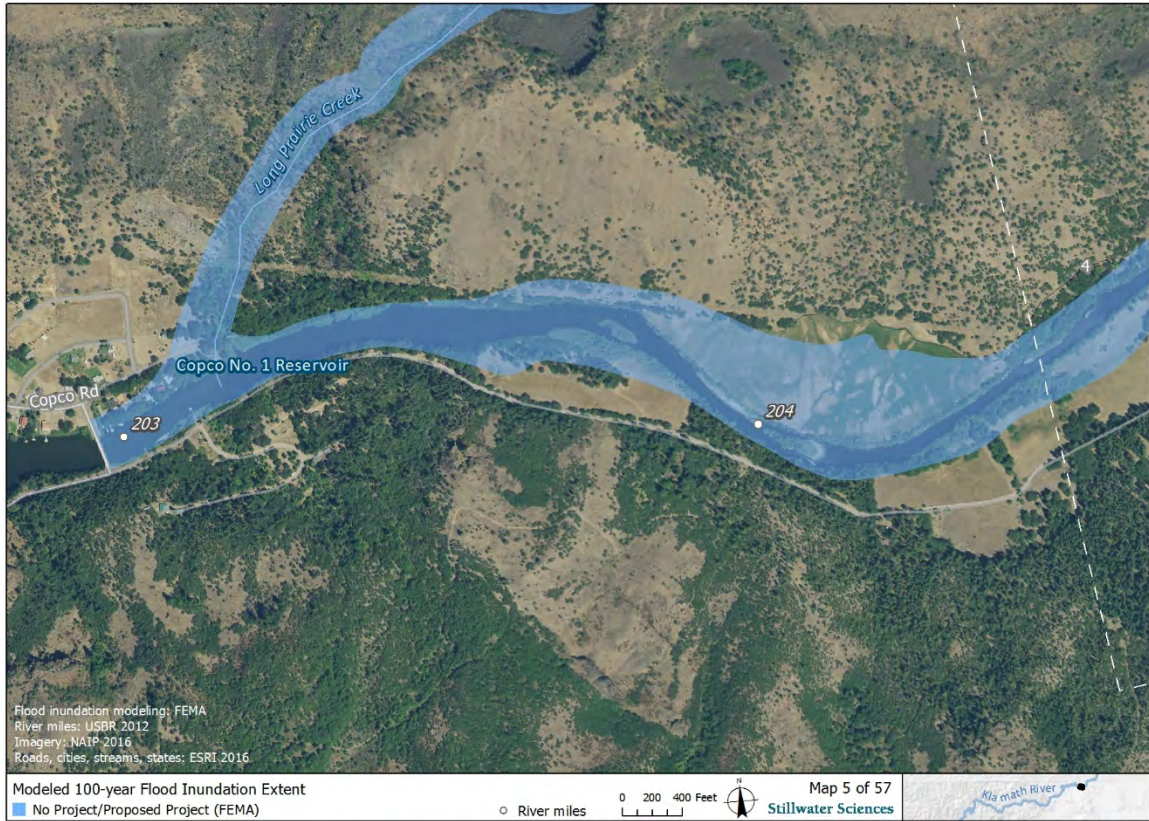
The following maps illustrate modeled 100-year flood inundation mapping conducted by FEMA (map tiles 1–5) and USBR (map tiles 6–57). USBR flood inundation mapping uses daily average flows under the two scenarios modeled in USBR (2012¹¹), including the Proposed Project (dams removal) and No Project (dams remain in place). The USBR modeling extends from Iron Gate Dam downstream to Happy Camp at approximately river mile 107. FEMA will make the final determination of the future 100-year floodplain after dam removal and the KRRC is coordinating with FEMA to initiate the map revision process.

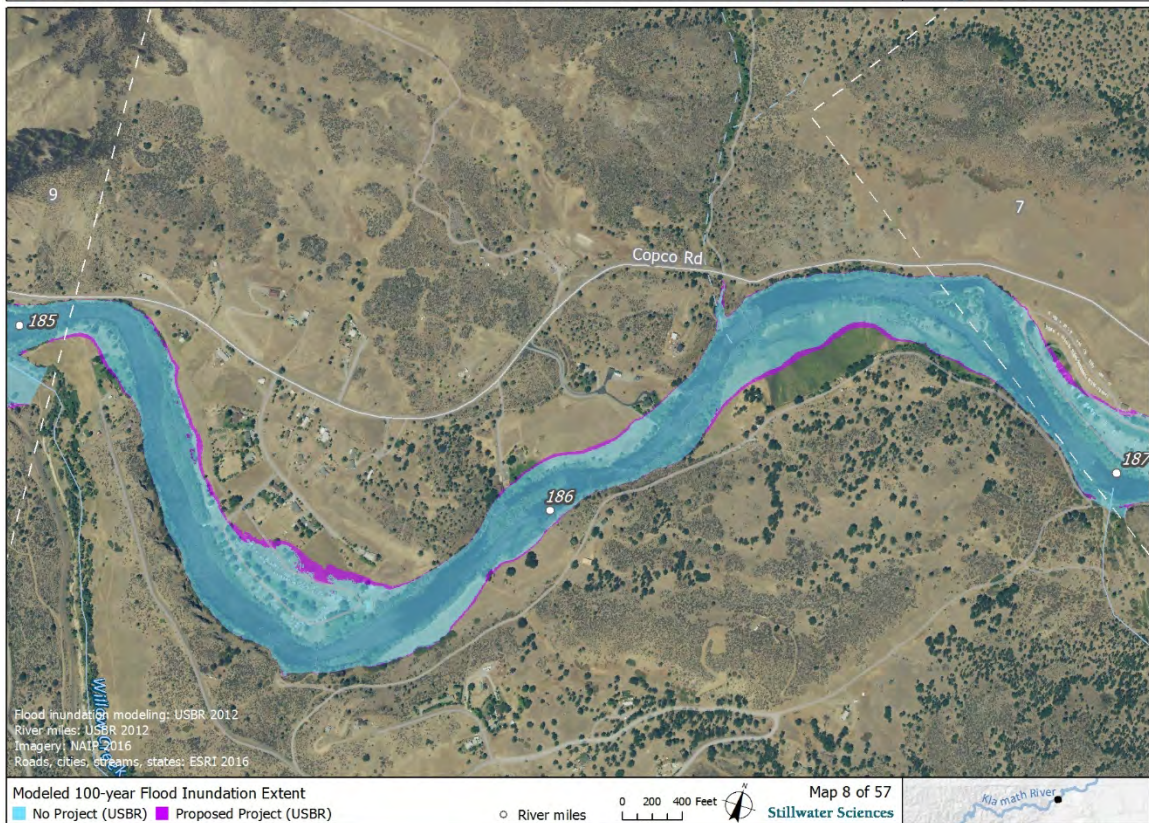
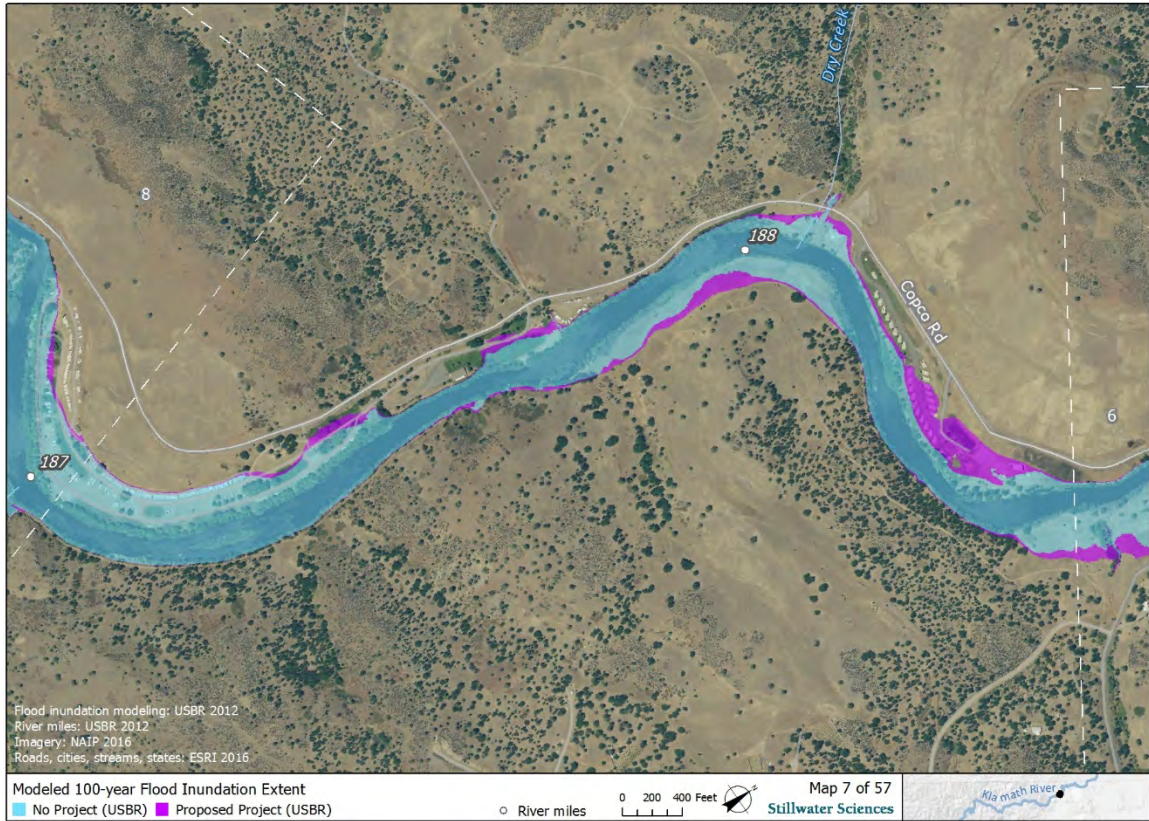
¹¹ USBR. 2012. Hydrology, Hydraulics, and Sediment Transport Studies for the Secretary's Determination on Klamath River Dam Removal and Basin Restoration. Technical Report No. SRH-2011-02. Prepared for Mid-Pacific Region, Bureau of Reclamation, Technical Service Center, Denver, Colorado.

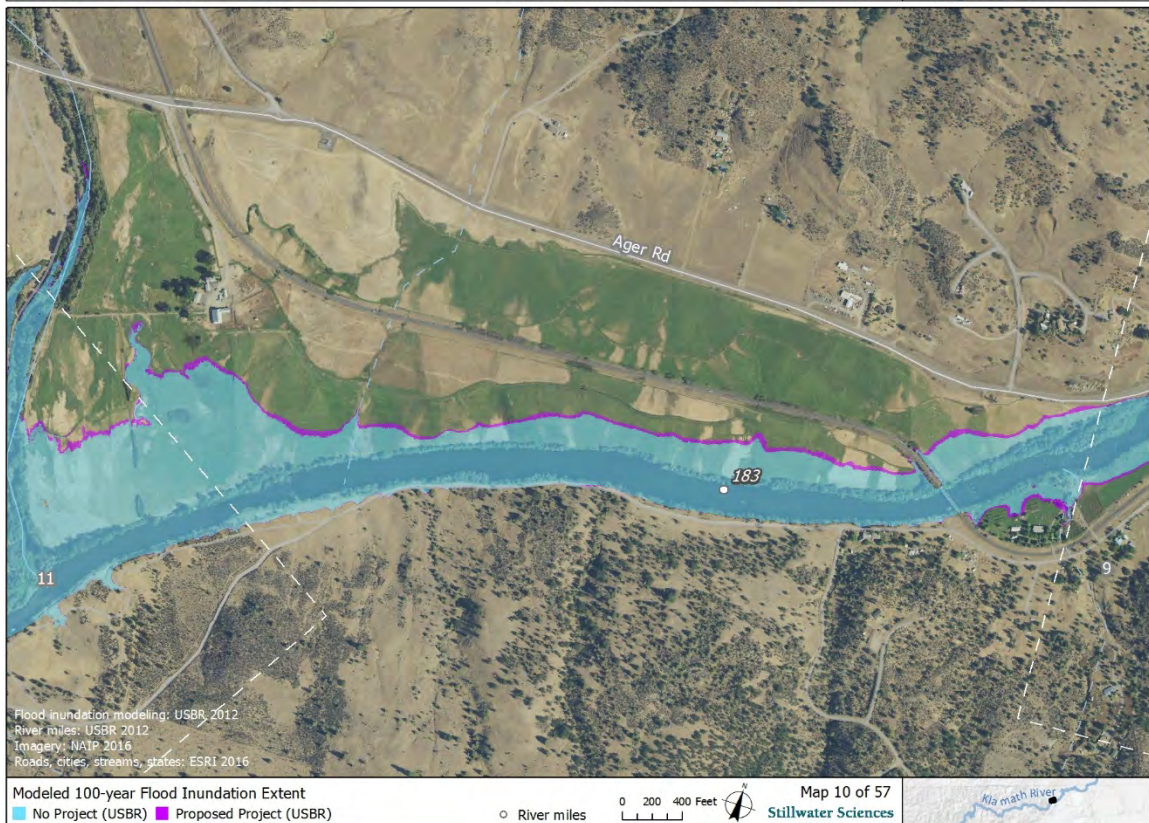
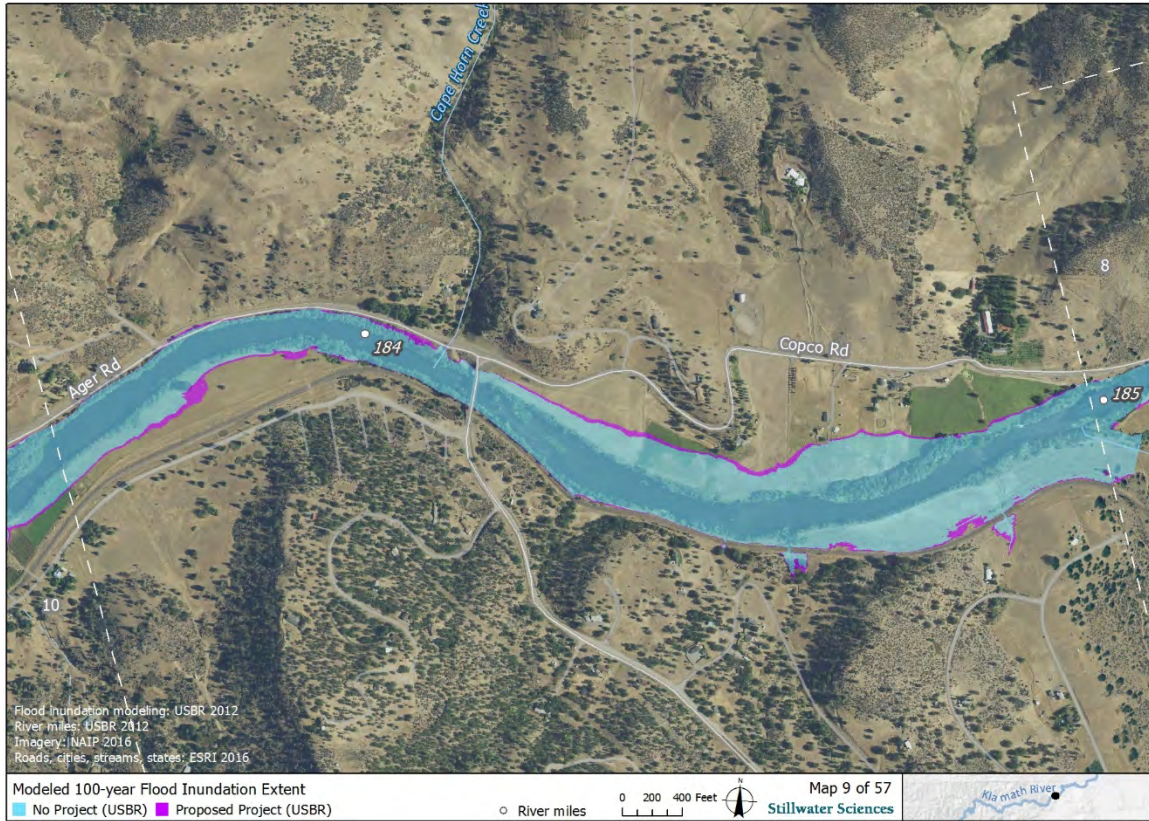


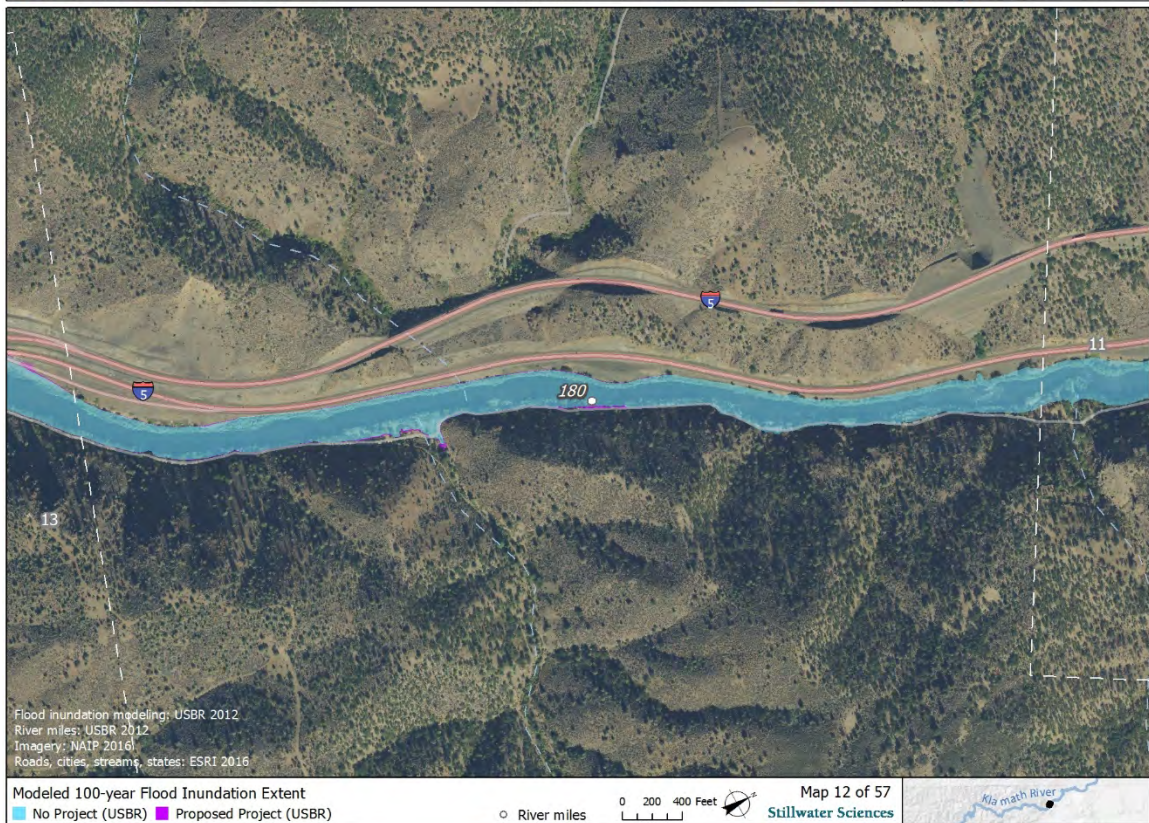
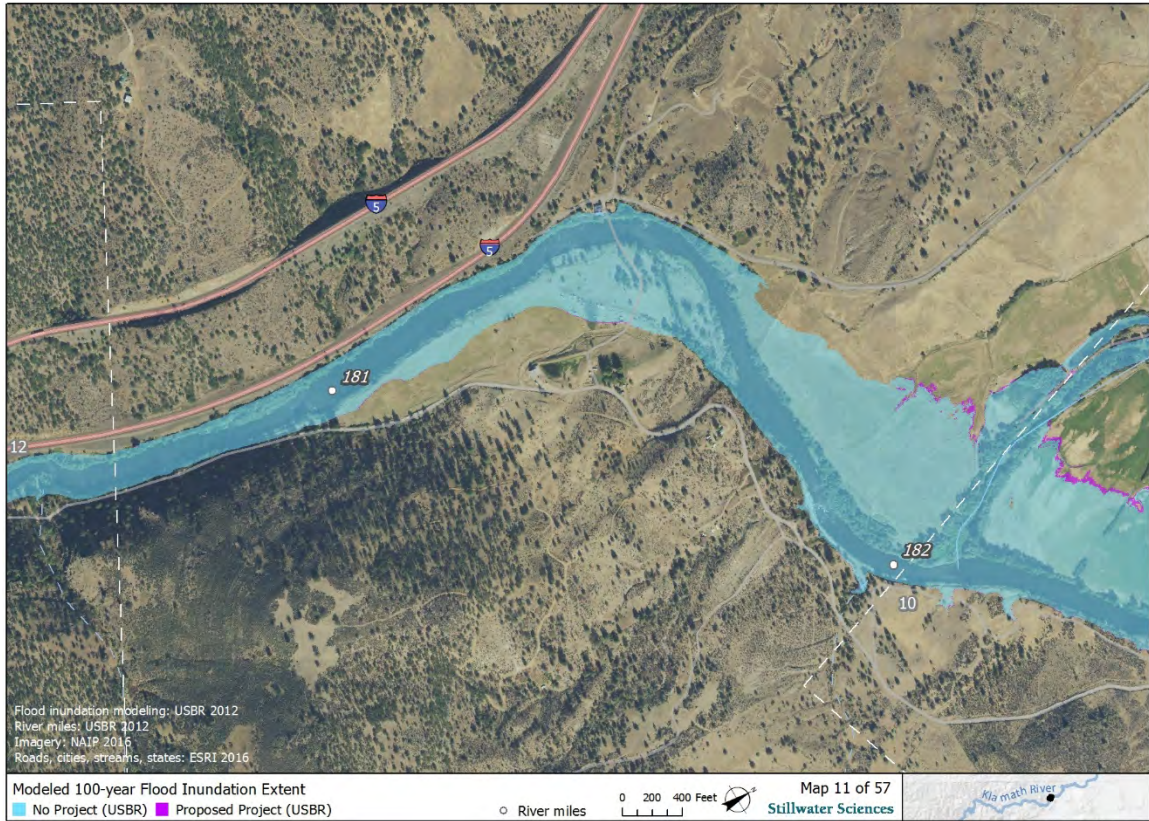


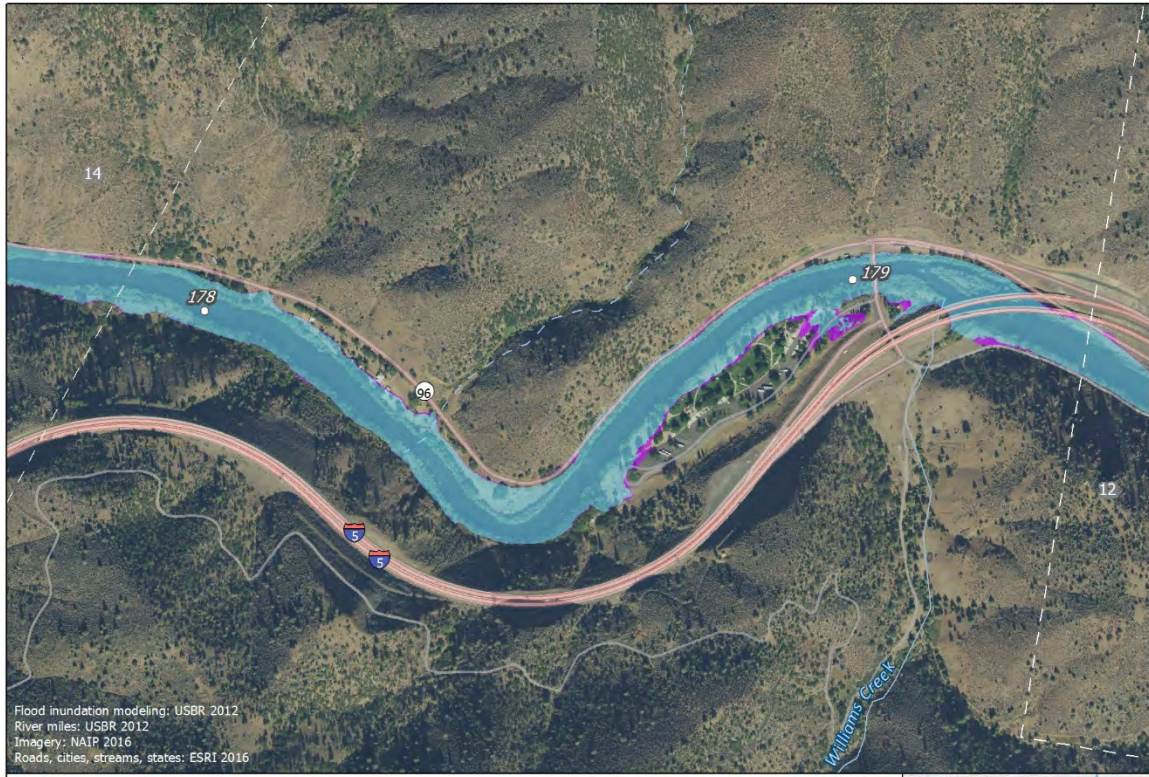








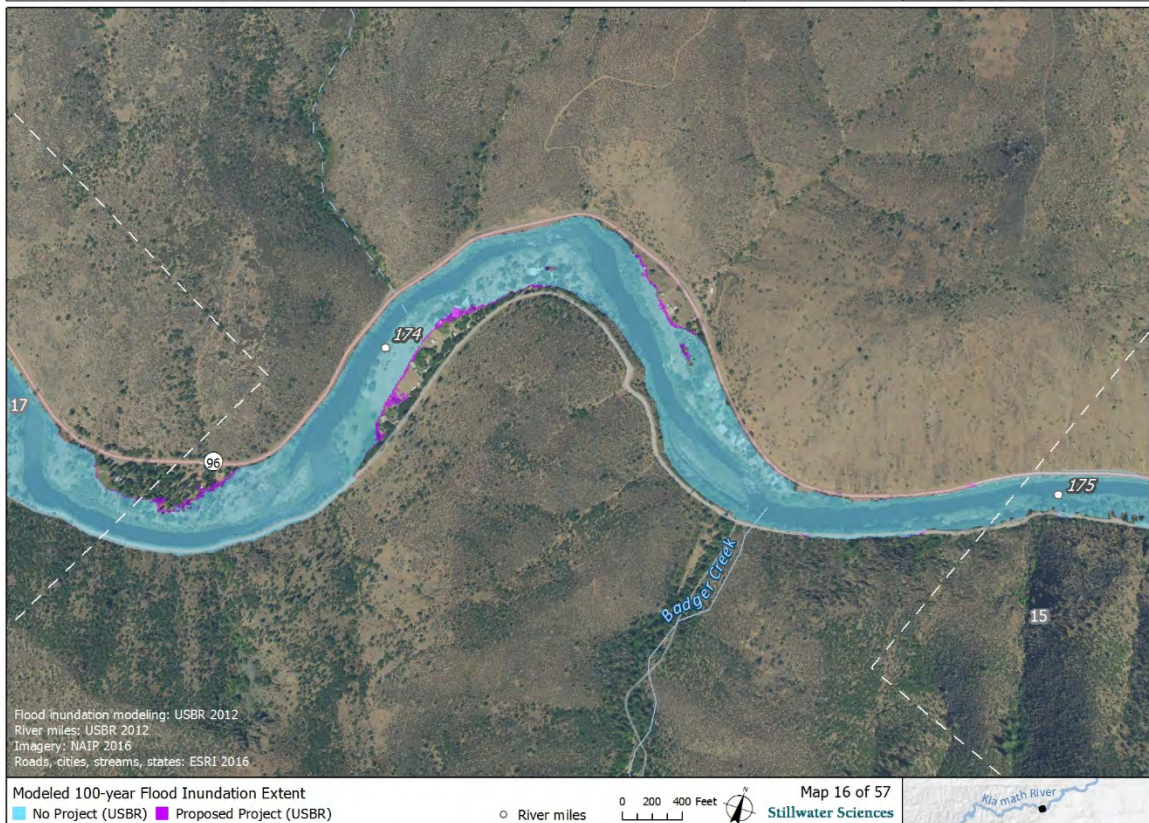


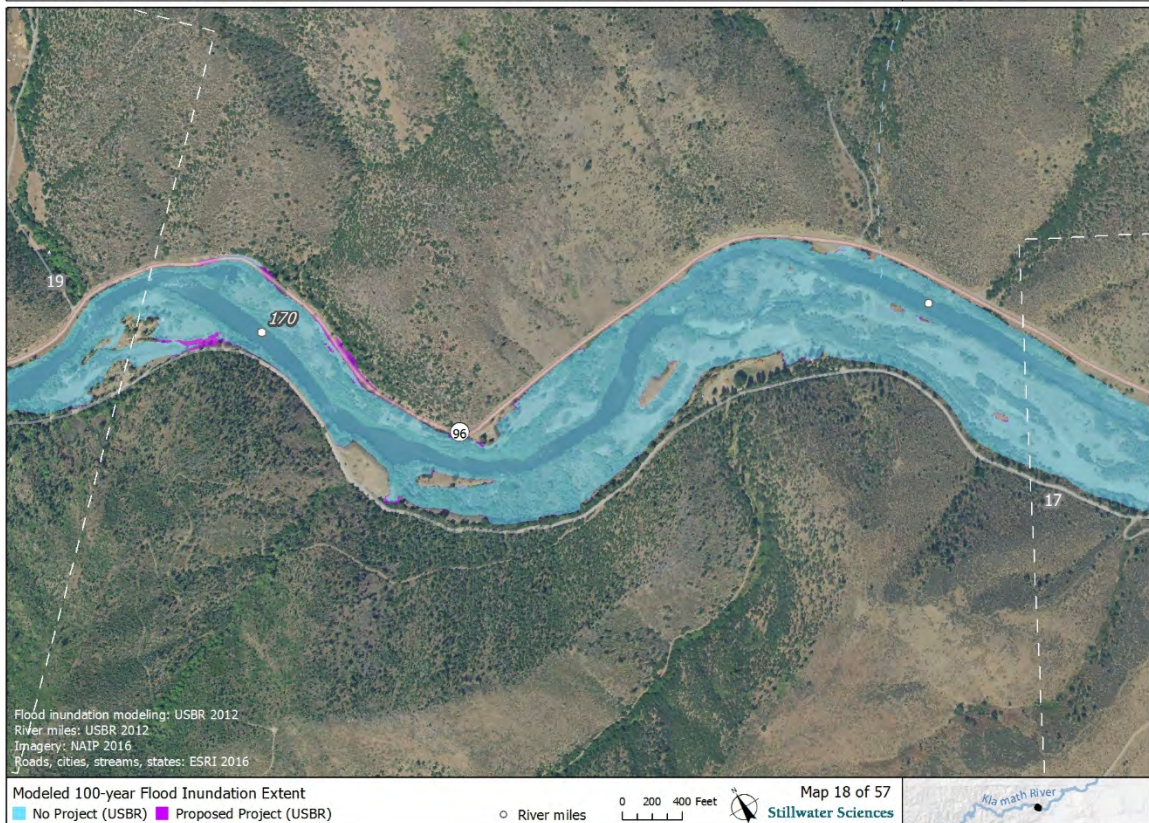


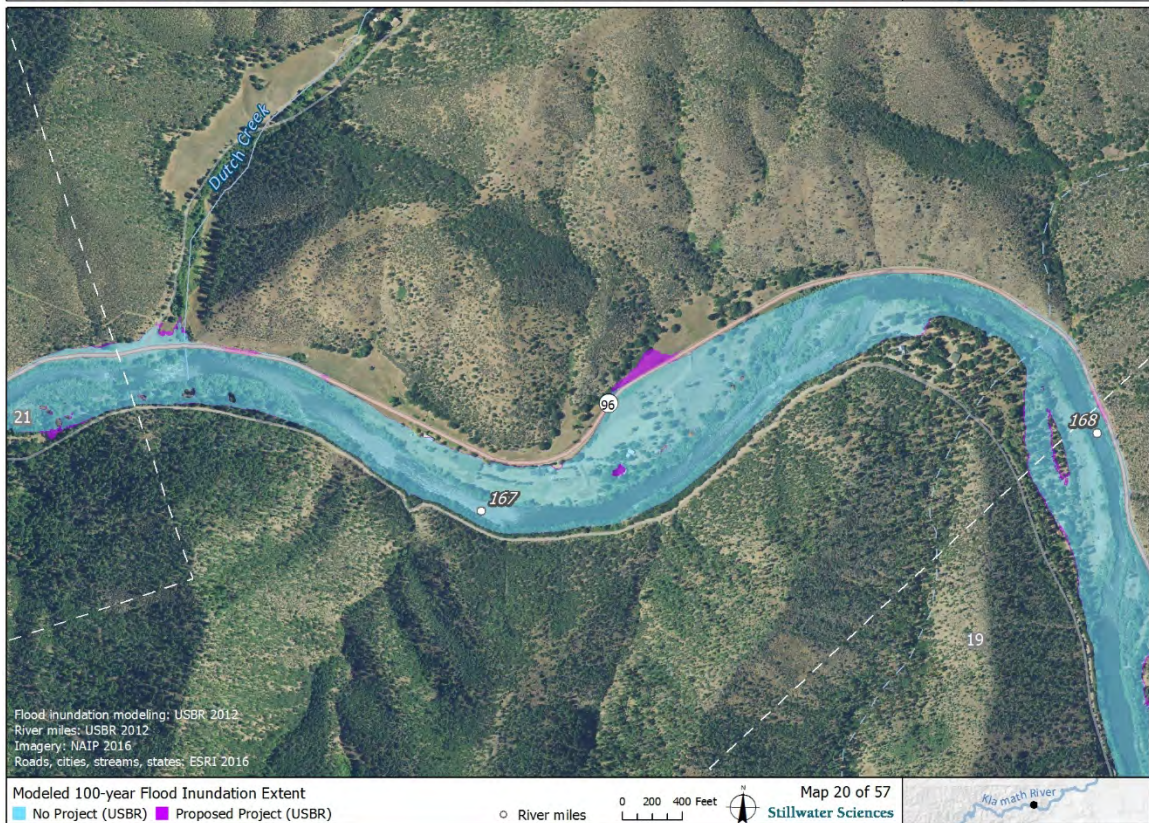
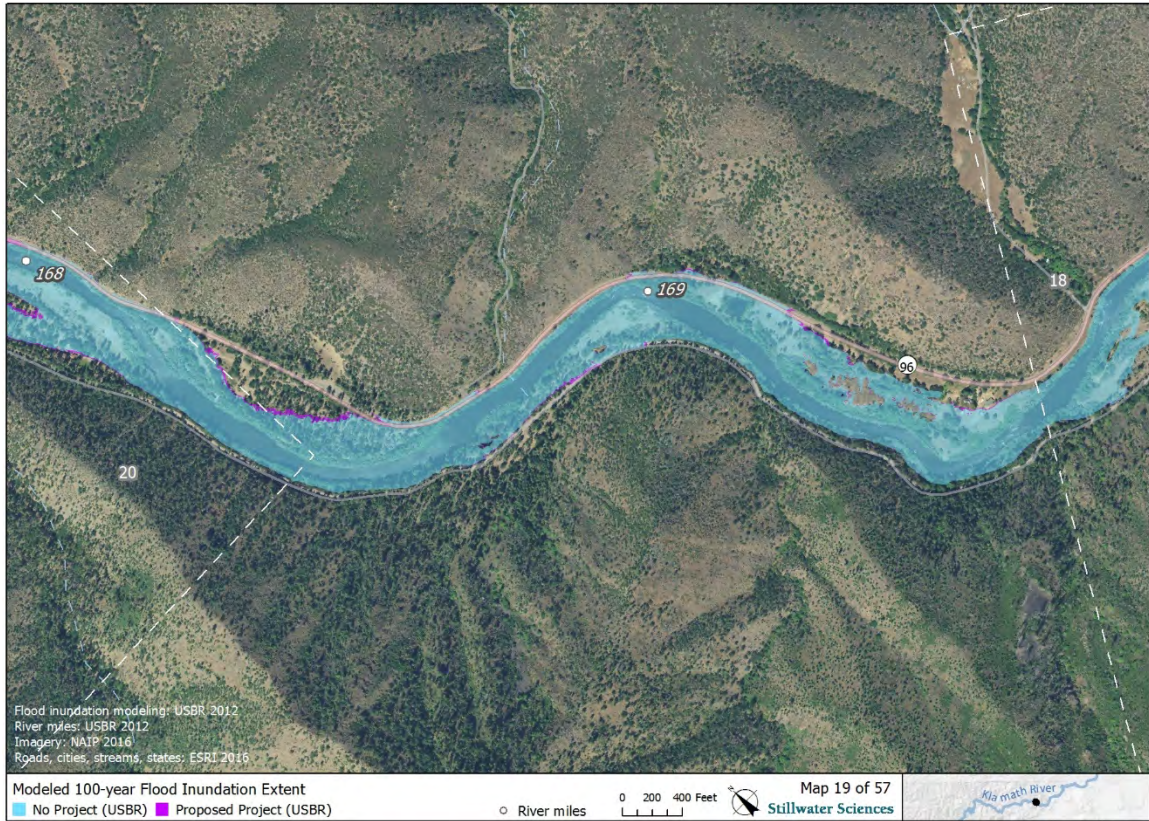
Modeled 100-year Flood Inundation Extent
No Project (USBR) Proposed Project (USBR)
River miles 0 200 400 Feet
Map 13 of 57
Stillwater Sciences



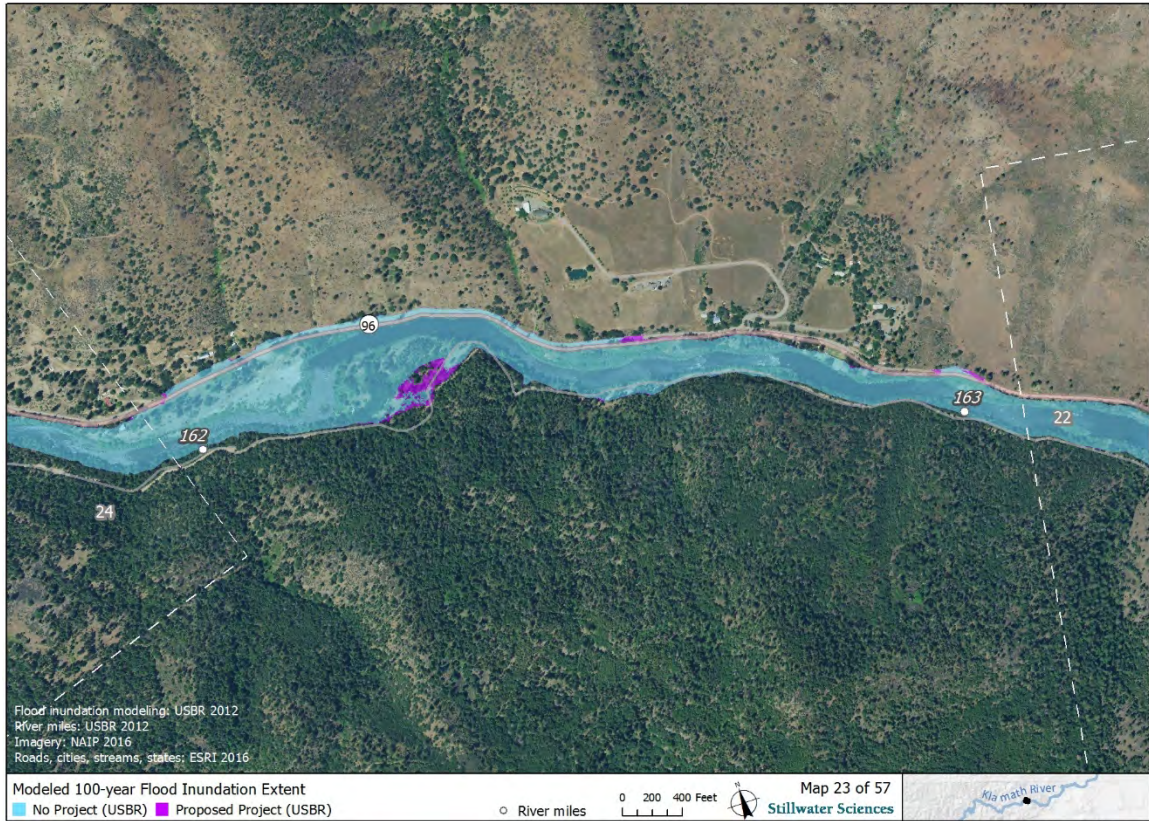
Modeled 100-year Flood Inundation Extent
No Project (USBR) Proposed Project (USBR)
River miles 0 200 400 Feet
Map 14 of 57
Stillwater Sciences









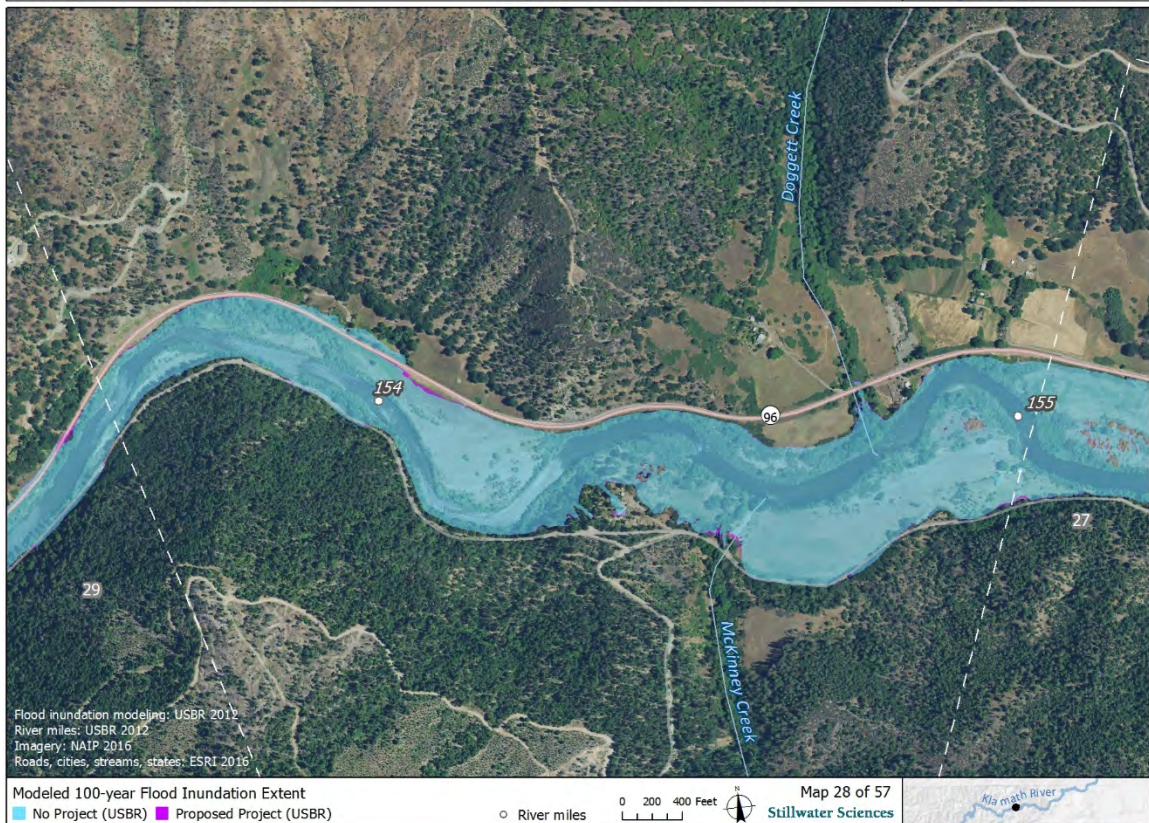
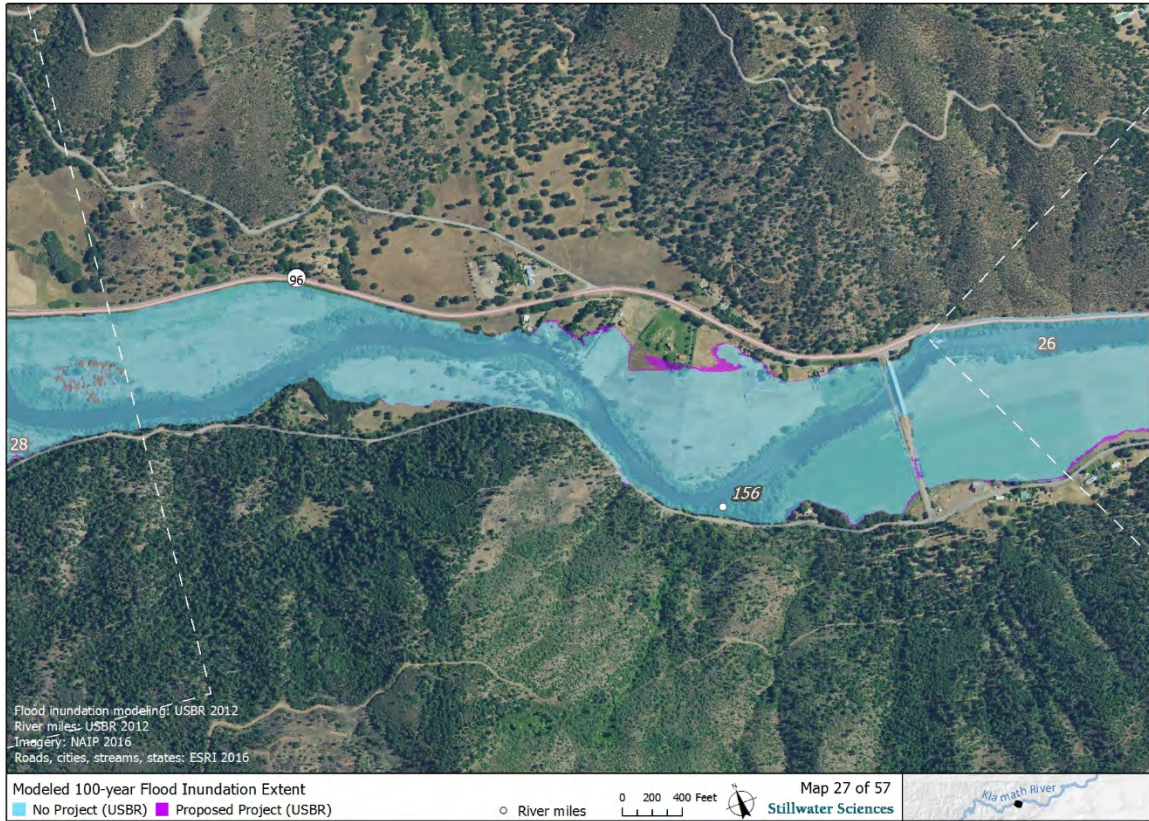




Modeled 100-year Flood Inundation Extent
No Project (USBR) Proposed Project (USBR)
River miles 0 200 400 Feet
Map 25 of 57
Stillwater Sciences
Klamath River



Modeled 100-year Flood Inundation Extent
No Project (USBR) Proposed Project (USBR)
River miles 0 200 400 Feet
Map 26 of 57
Stillwater Sciences
Klamath River

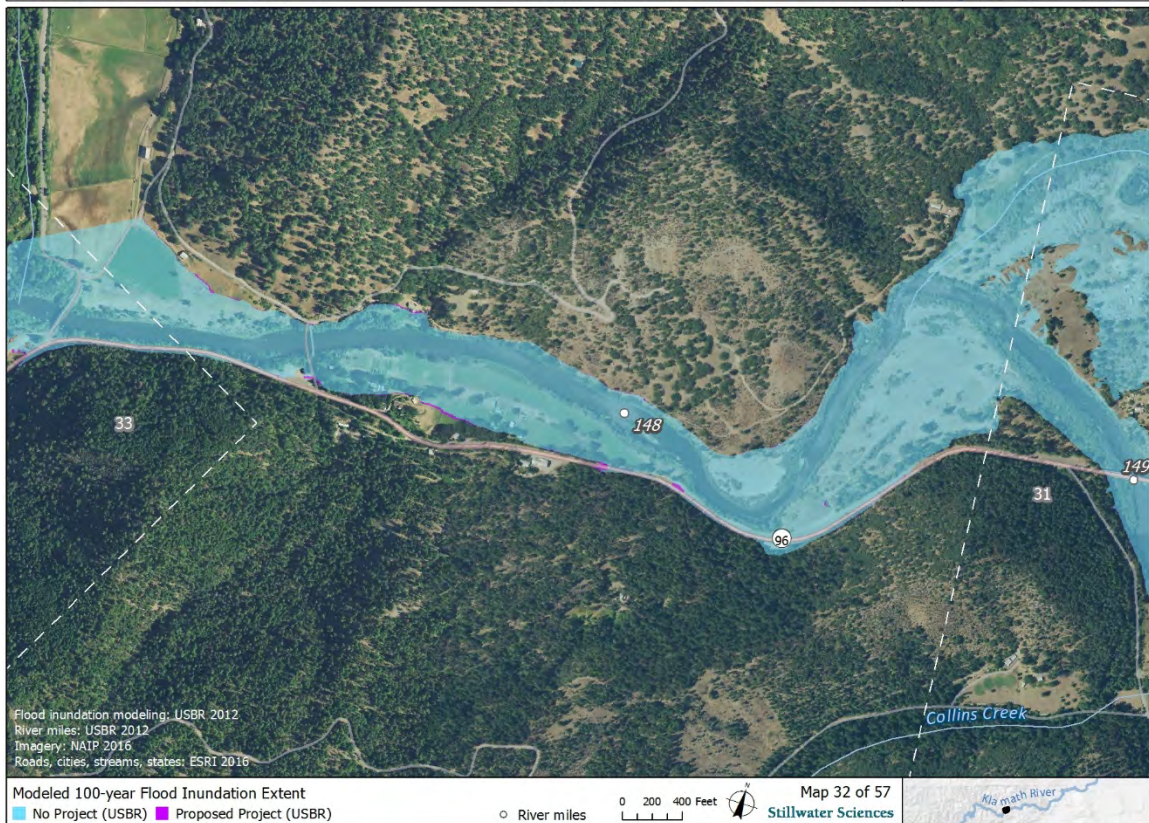
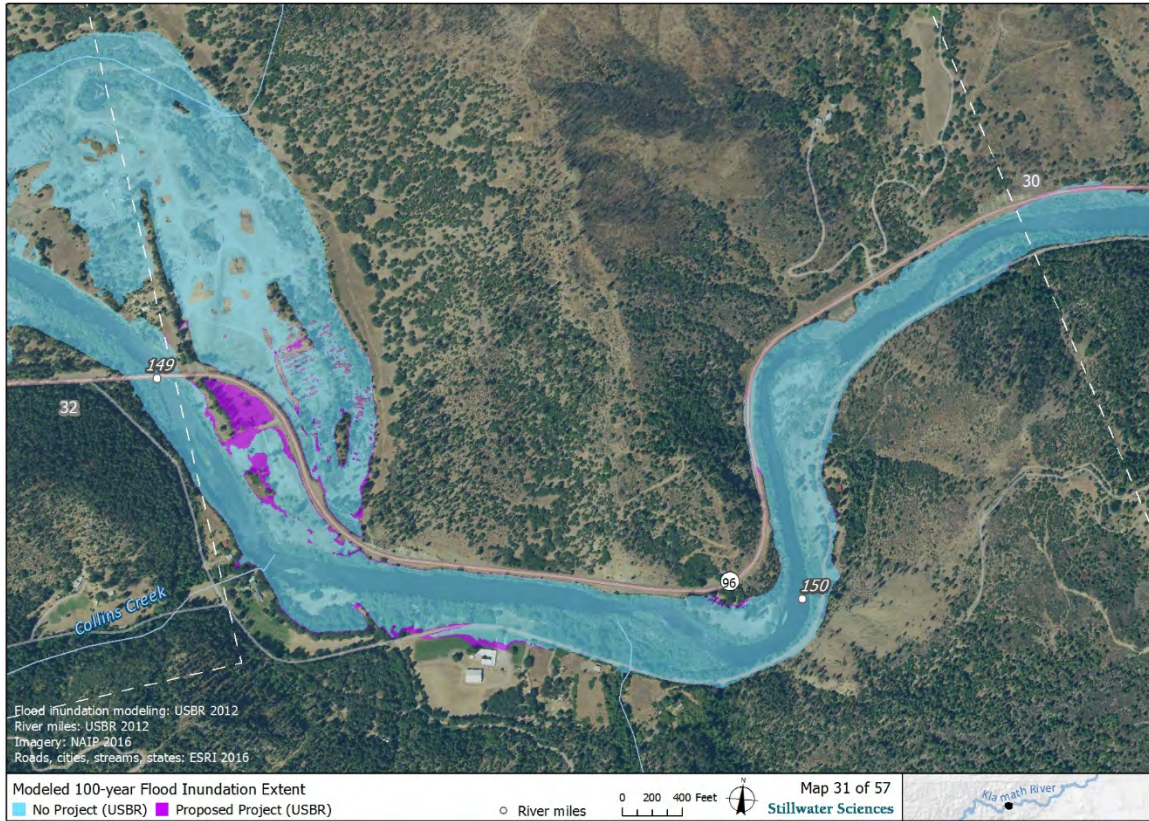


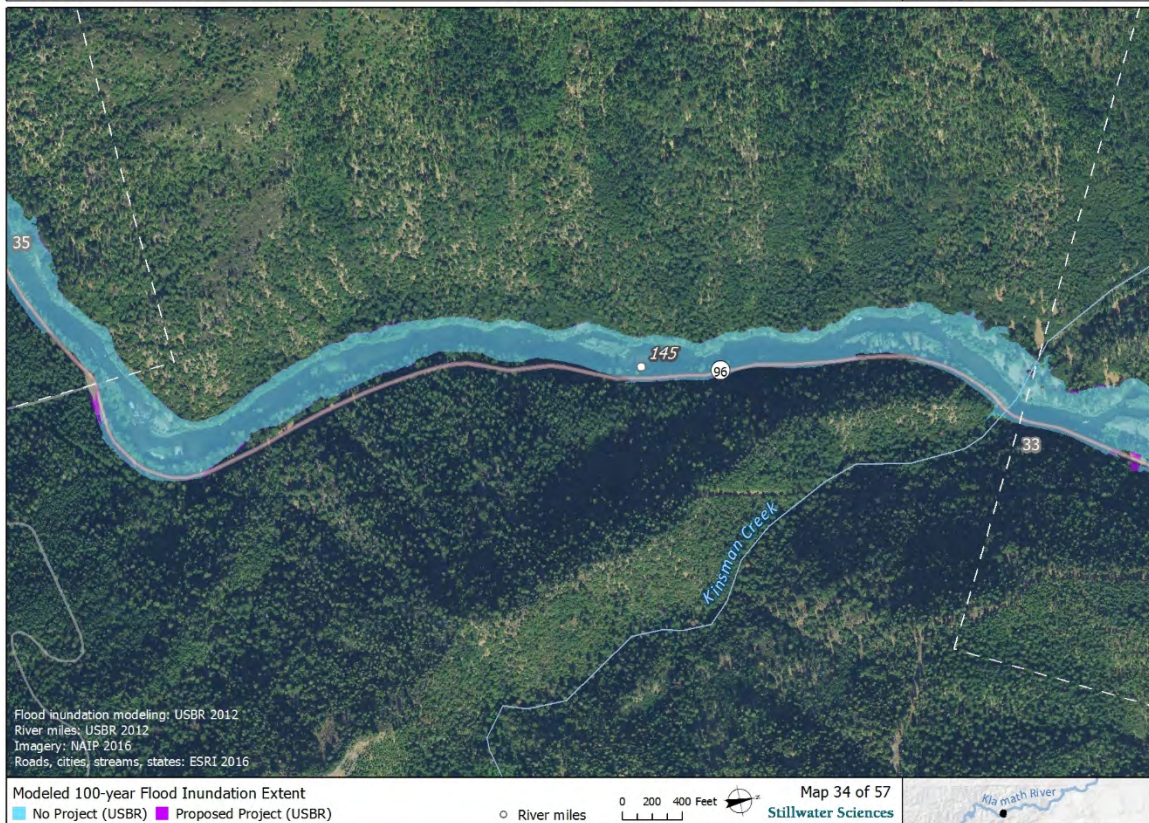
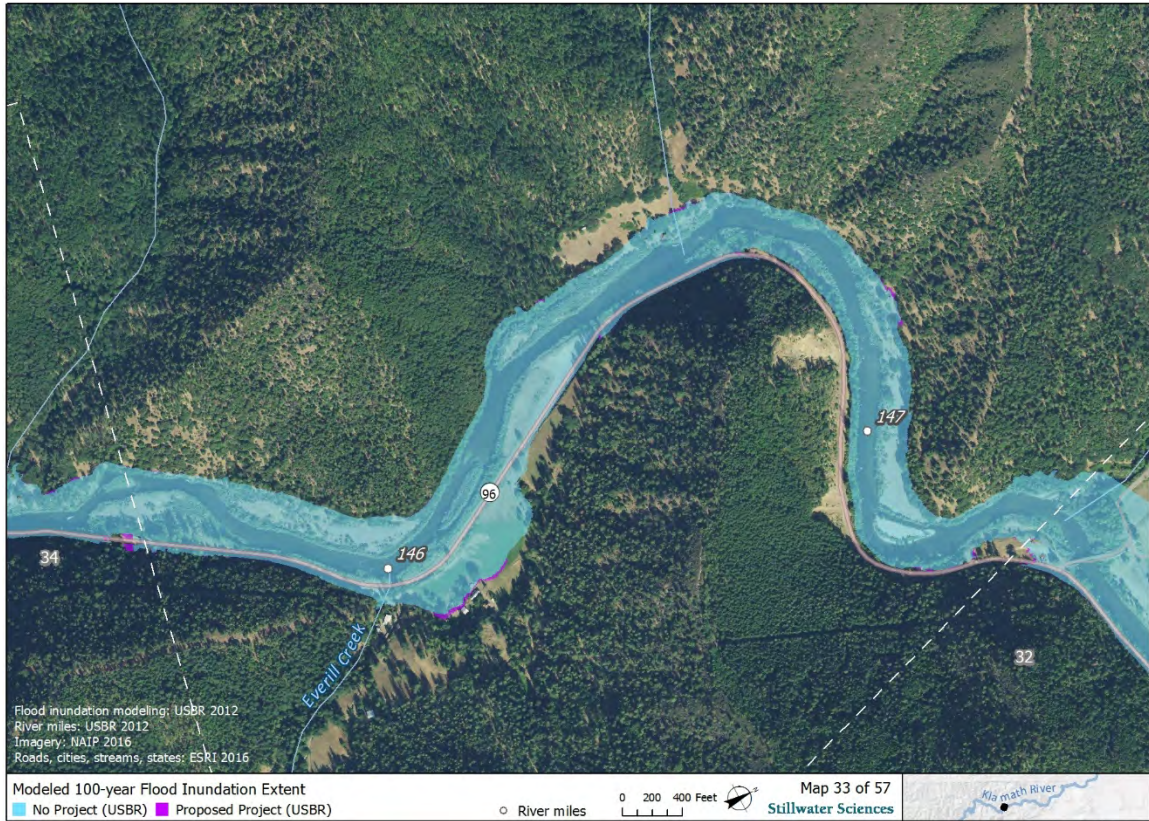


Modeled 100-year Flood Inundation Extent
No Project (USBR) Proposed Project (USBR)
River miles 0 200 400 Feet
Map 29 of 57
Stillwater Sciences



Modeled 100-year Flood Inundation Extent
No Project (USBR) Proposed Project (USBR)
River miles 0 200 400 Feet
Map 30 of 57
Stillwater Sciences

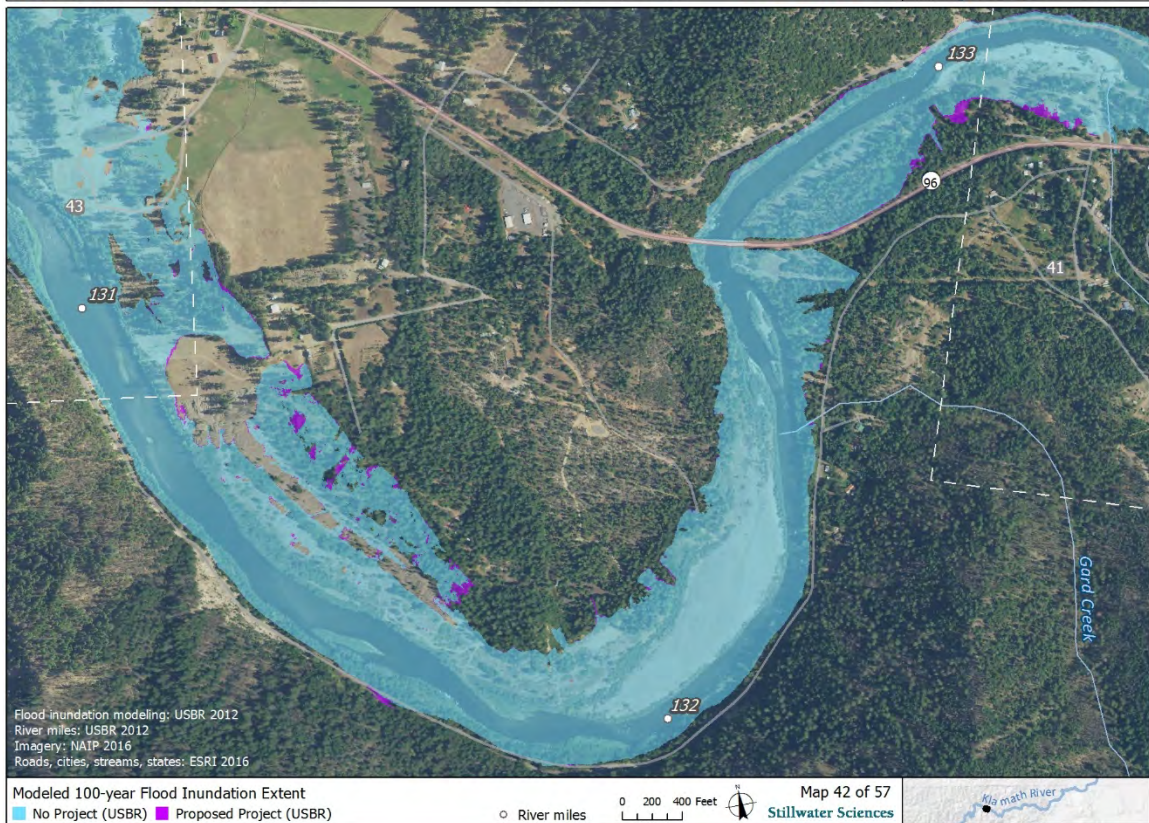


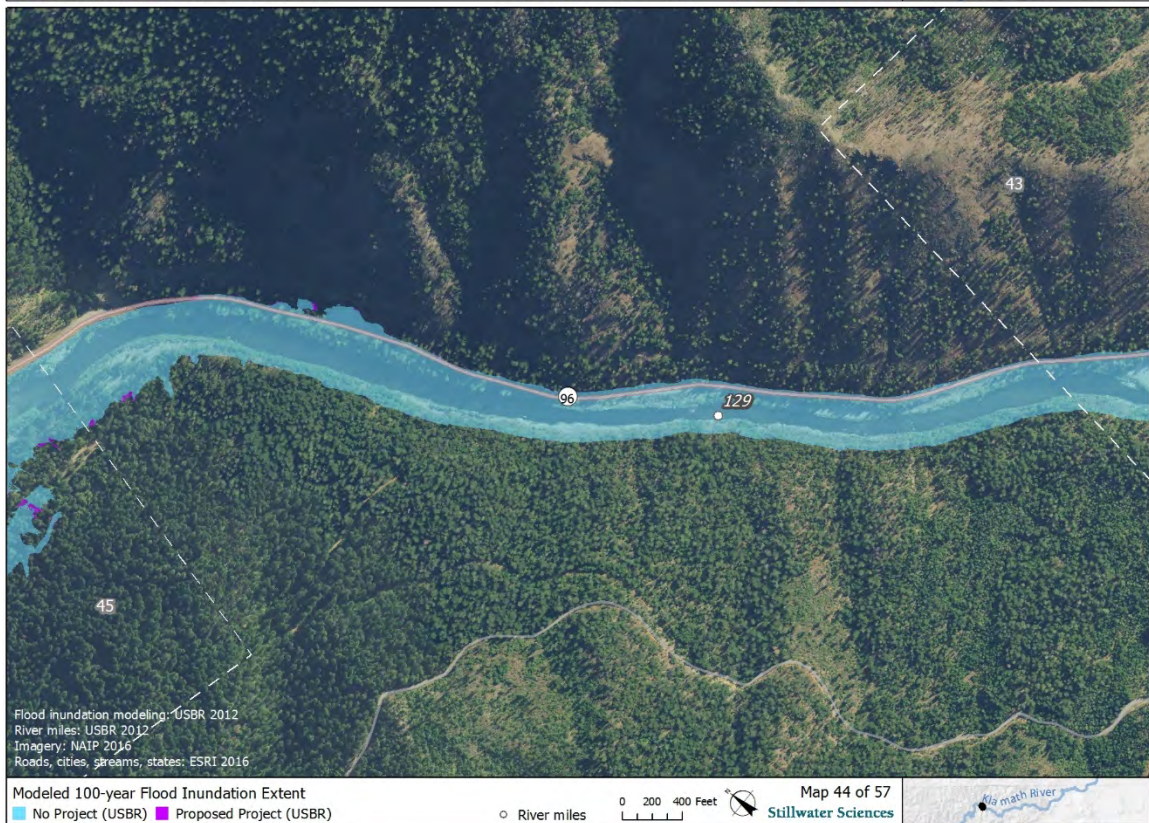
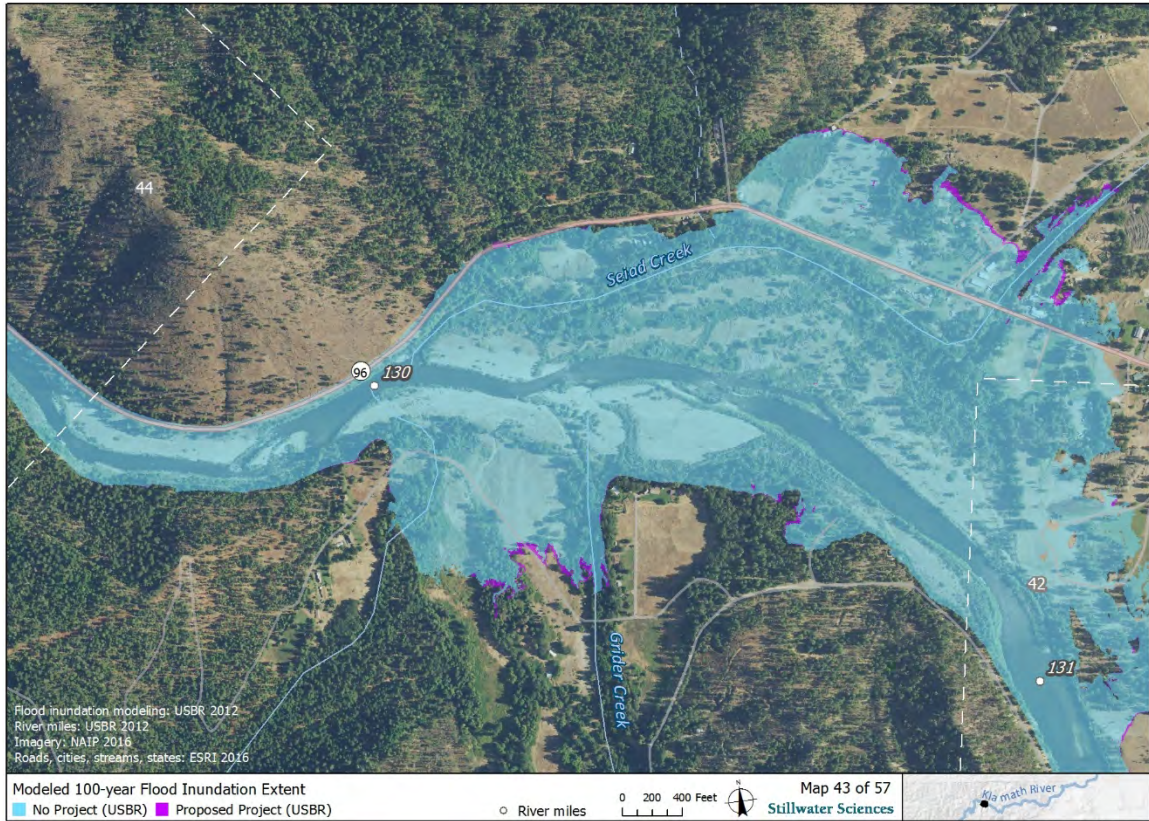


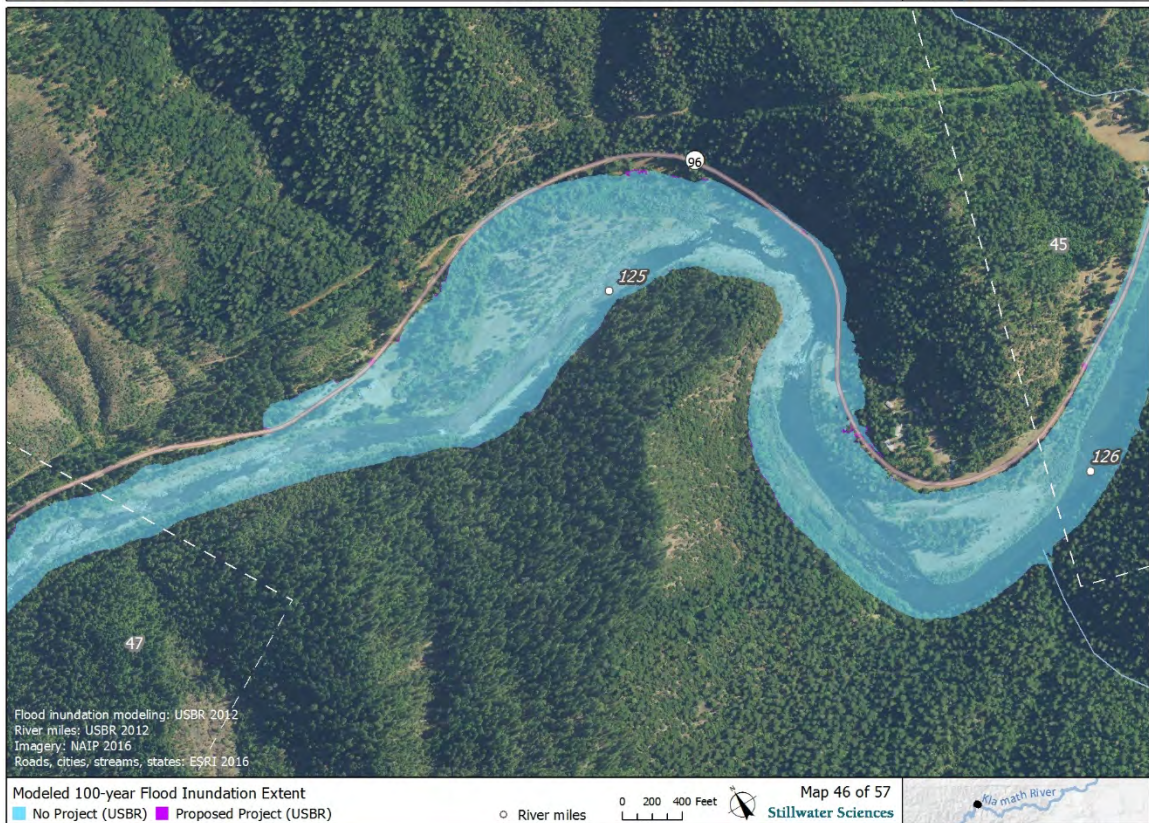


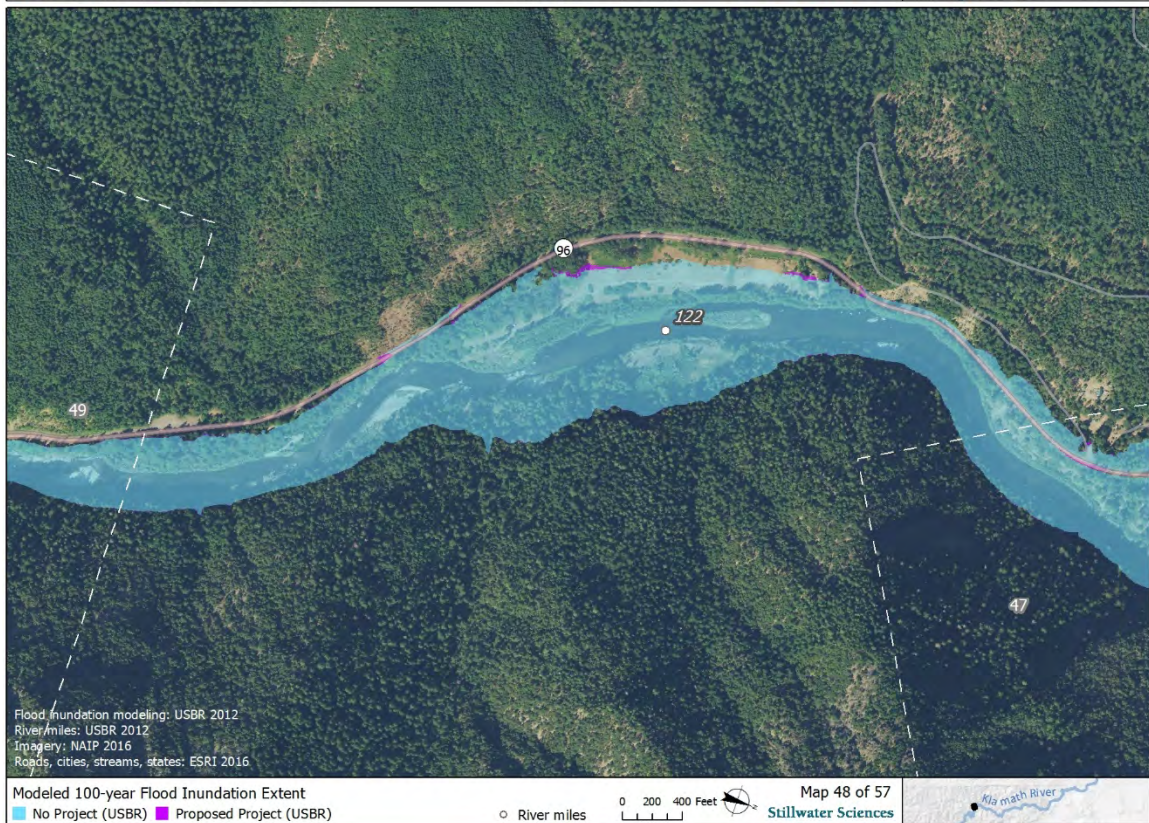












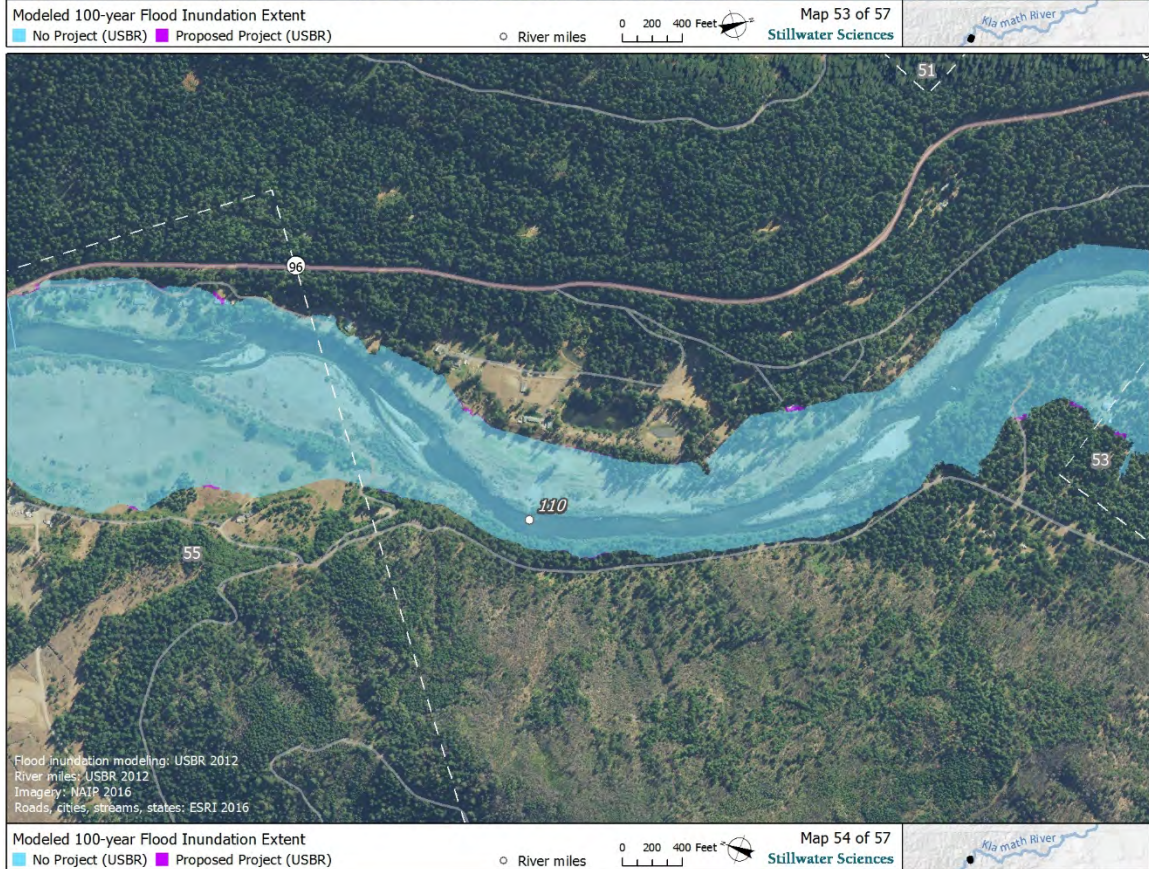
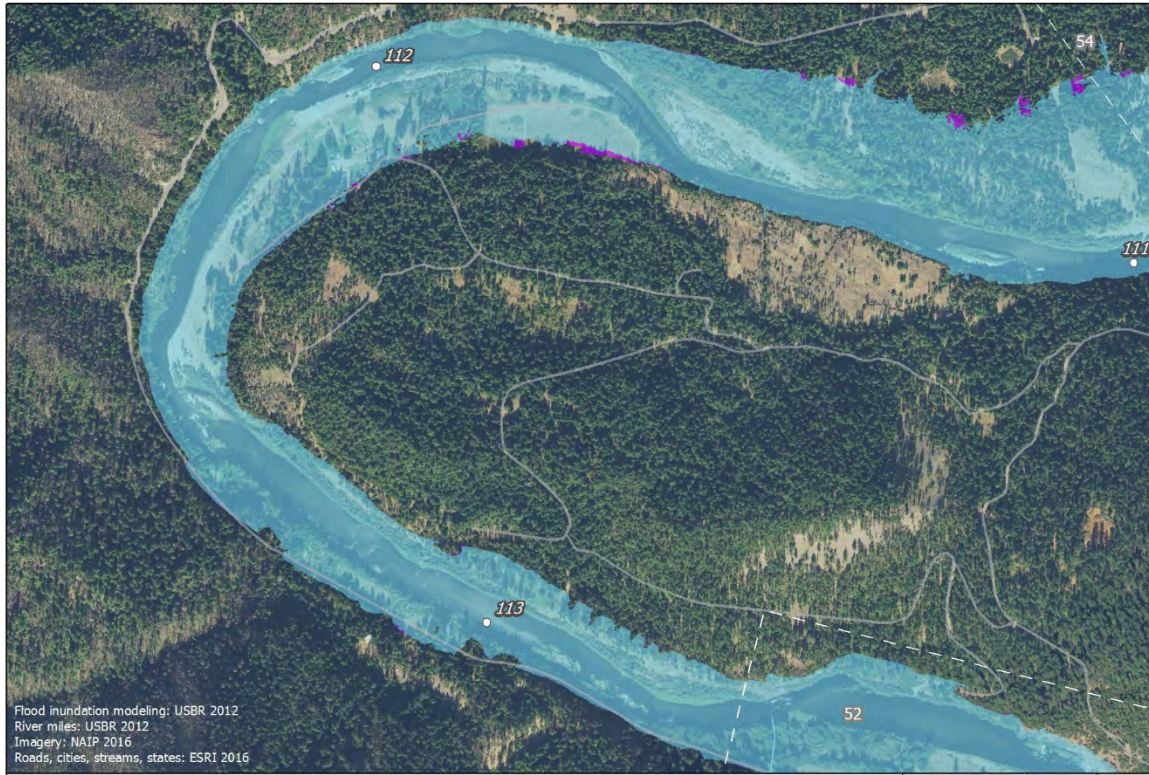


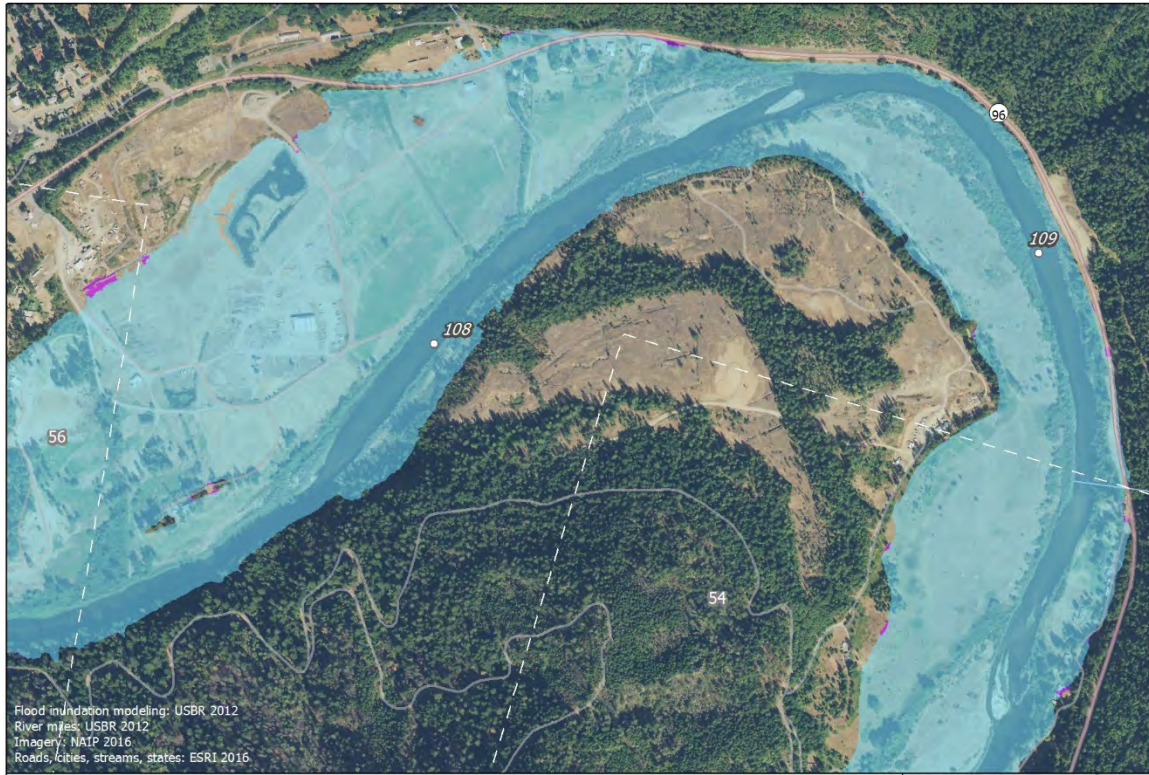


Modeled 100-year Flood Inundation Extent
No Project (USBR) Proposed Project (USBR)
River miles 0 200 400 Feet
Map 51 of 57
Stillwater Sciences
Klamath River



Modeled 100-year Flood Inundation Extent
No Project (USBR) Proposed Project (USBR)
River miles 0 200 400 Feet
Map 52 of 57
Stillwater Sciences
Klamath River





Modeled 100-year Flood Inundation Extent
No Project (USBR) Proposed Project (USBR)
River miles 0 200 400 Feet
Map 55 of 57
Stillwater Sciences
Klamath River



Modeled 100-year Flood Inundation Extent
No Project (USBR) Proposed Project (USBR)
River miles 0 200 400 Feet
Map 56 of 57
Stillwater Sciences
Klamath River

