BUREAU OF RECLAMATION

Categorical Exclusion Checklist and Decision Record

Yurok Tribe Mainstem Klamath River and Major Tributaries Aerial LiDAR Surveys

CGB-ED-2026-028

prepared by

BRIAN WRIGHT Digitally signed by BRIAN WRIGHT Date: 2026.03.26 13:34:37 -07'00'

Brian R. Wright
Senior Natural Resource Specialist
Klamath Basin Area Office

concurred by

WILLIAM NORTON Digitally signed by WILLIAM NORTON Date: 2026.03.26 14:18:15 -07'00'

William Norton
Archaeologist
California – Great Basin Regional Office
Concurrence with Extraordinary Circumstance 6

concurred by

TORREY TYLER Digitally signed by TORREY TYLER Date: 2026.03.26 15:33:51 -07'00'

Torrey Tyler
Supervisory Fisheries Biologist
Klamath Basin Area Office
Concurrence with Extraordinary Circumstance 10

approved by

ALAN HECK Digitally signed by ALAN HECK Date: 2026.03.26 16:55:21 -07'00'

Alan Heck, Jr.
Area Manager
Klamath Basin Area Office

Proposed Action

Under the Proposed Action, Reclamation proposes to provide approximately $200,000 in financial assistance to the Yurok Tribe to conduct aerial LiDAR (*Light Detection and Ranging*) surveys on the mainstem Klamath River, and the lower reaches of each major tributary between Keno Dam and R-Ranch (located just downstream of the former Iron Gate Dam Site), in both Klamath County, Oregon and Siskiyou County, California.

Location

The upstream, or eastmost, boundary of the Project area is located at Keno Dam, owned and operated by Reclamation, with the legal location of Section 36, Township 39S, Range 007E (Latitude 42.1345528°N, Longitude 121.9488667°W), while the downstream, or westmost boundary, of the Project area, with the legal location of Section 19, Township 47N, Range 005W, is located at R-Ranch (Latitude 41.9034361°N, Longitude 122.4658917°W) on the mainstem Klamath River downstream of the former Iron Gate Dam Site (Latitude 41.93389°N, Longitude 122.43417°N) (Table 1; Attachment B, Figure 1).

Table 1. Geographic coordinates and legal location descriptions of the upper and lower Project area boundaries for the mainstem Klamath River aerial LiDAR surveys.

Site Name	Latitude	Longitude	Section	Township/Range
Keno Dam (Upstream)*	42.1345528°N	121.9488667°W	36	T. 39S, R. 007E
R-Ranch (Downstream)**	41.9034361°N	122.4658917°W	19	T. 47N, R. 005W

Note: *This location is within the Willamette Base Meridian. **This location is within the Mount Diablo Base Meridian.

Additionally, the aerial LiDAR surveys will cover the lower reaches of all major tributaries on the mainstem Klamath River between Keno Dam and R-Ranch (Table 2; Attachment B, Figures 2-4).

Table 2. Geographic coordinates and legal location descriptions for the mainstem Klamath River tributaries (upstream to downstream) within the Project area for aerial LiDAR Surveys.

Tributary / Site Name	Latitude	Longitude	Section	Township/Range
Spencer Creek*	42.1506944°N	122.0281972°W	29	T. 39S, R. 007E
Shovel Creek**	41.9713889°N	122.2013917°W	27	T. 048N, R. 003W
Klamath Hot Springs **	41.9717417°N	122.2055444°W	27	T. 048N, R. 003W
Long Prairie Creek**	41.9671972°N	122.2553883°W	36	T. 048N, R. 004W
Fall Creek**	41.9739861°N	122.3665056°W	36	T. 048N, R. 005W
Jenny Creek**	41.9769028°N	122.3993167°W	26	T. 048N, R. 005W
Camp Creek**	41.974125°N	122.4357417°W	33	T. 048N, R. 005W
Scotch Creek**	41.974333°N	122.4391472°W	33	T. 048N, R. 005W
Deer Creek**	41.9713889°N	122.2013917°W	27	T. 048N, R. 003W
Bogus Creek**	41.92920561°N	122.4433389°W	17	T. 047N, R. 005W

Note: *This location is within the Willamette Base Meridian. **These locations are within the Mount Diablo Base Meridian.

Background

The Tribe is experiencing increased impacts from a changing climate, including hotter and drier summers, more frequent droughts, and highly variable inter-annual river and stream flows. The Proposed Action will be one component of many to come that would assist the Tribe in developing, managing, enhancing, and protecting the fishery resources in the Lower Klamath River. This funding will also contribute to the Tribe's continuing efforts to become more self-sufficient, sustainable, and resilient under this changing climactic regime, while simultaneously preserving ancestral tribal traditions and customs.

With dam removal, sediments previously trapped behind the Lower Klamath River Dams will be released over time into the Klamath River. There are significant environmental and biological concerns that the downstream redistribution of these sediments in the mainstem Lower Klamath River could lead to potential negative impacts, including deposition of aggradation (i.e., material deposited by a river, stream, or current) and increasing streambed elevation, which could result in additional flooding, restricted access to off-channel habitats, filling of pool habitats, and increased fines within the substrate composition matrix, as well as the downstream redistribution of accumulated contaminants within the accumulated sediments. By utilizing aerial LiDAR remote sensing technology, the Tribe would continue to document the extent of river

channel changes as the dam sediments redistribute downstream over time.

Aerial LiDAR flights will occur during periods when snow cover is absent and before foliage begins to appear on deciduous trees in early spring. Additionally, a second series of flights will occur in late fall during reduced seasonal river and stream flows and after deciduous trees have shed their seasonal foliage. This will ensure maximum ground penetration and improved evaluation of on-the-ground vegetative structure and composition. Each survey period will require two days, totaling four days of flight operations at each survey location during each survey period (early spring and late fall). These LiDAR flights will use existing on-the-ground LiDAR markers (i.e., temporary 4-foot by 4-foot crosses) constructed during prior surveys and are still in usable condition.

The proposed flight lines would be identified prior to taking off to minimize airtime and reduce potential redundancies in the LiDAR survey data. The Yurok owned plane will depart from the Montague-Yreka Rohrer Airfield in Yreka, CA and will return to the same airfield after each day's survey has been completed.

Aside from the primary purpose of the LiDAR flights of informing the design process for habitat restoration projects, these data sets have many other applications from baseline environmental condition assessments to natural resource planning to habitat restoration project design. These datasets will provide an evolving time series of environmental conditions, enable analysis of climate change impacts, and track changes along the mainstem Lower Klamath River and all the major tributaries within the Project area over time. Additionally, these datasets will help assess changing environmental conditions post dam removal as well as monitor habitat restoration activities and provide an initial and ongoing assessment of the success of completed restoration projects in the Lower Klamath River over time.

The geospatial data acquired will provide information that will guide resource managers, engineers, restoration practitioners, and environmental planners quantitatively analyze and assess site conditions resulting in more informed and scientifically based decisions, and the development of habitat restoration designs across the Project area landscape. This information is critically important considering the changing environmental conditions over time following removal of the lower four mainstem Klamath River dams.

Data collection efforts will be non-ground disturbing and will have no impact on any ambient environmental conditions, cultural resources, nor cause any modifications to any existing buildings or structures, nor cause any changes in land use.

All data collection efforts will be managed by two project teams: a technical Project Design Team and the Inter-Tribal Planning and Advisory Committee. The technical Project Design Team has experience collecting and processing high resolution aerial LiDAR imagery and will determine the data types, data specifications, and timing of data acquisition. The geospatial LiDAR survey data will be processed by the Yurok Tribe's Technical Design Team and verified by partner tribes, other agencies, NGOs, among others. The flight routes and geospatial data

collected from each location will be reviewed by the technical Project Design Team of Yurok and partner Tribal staff, agency representatives, and NGOs.

Aerial LiDAR Basics

Aerial LiDAR technology offers a precise and efficient method for capturing detailed topographic data using laser technology utilizing various aerial platforms, such as airplanes, helicopters, and drones or uncrewed aerial vehicles (UAVs), which have revolutionized topographic remote sensing data acquisition. This technology is a 3D data acquisition method of delivering 3D point clouds of the Earth's surface and ground-based structures or objects. These types of surveys generate millions of data points, providing highly detailed 3D models of a surveyed landscape. Aerial LiDAR surveys are essential for obtaining high resolution data for various applications, including topographic mapping, land use/land cover classification, and environmental monitoring.

The multiple returns along the laser line of sight can be extracted from a single laser pulse, which is particularly useful for surveys of vegetated areas. The laser beams are continuously sweeping laterally and, because of the forward motion of the aerial platform, a swath of the terrain below the aircraft is captured. The distances between the sensor and targets on the ground are determined by measuring the roundtrip time of an outgoing laser pulse and the portion of the signal scattered back from the illuminated targets into the receiver's field of view. Thus, aerial LiDAR data is a time-synchronized, multi-sensor system, and the 3D points are calculated via direct georeferencing (i.e., the process of assigning a coordinate-based system).

There are four main components of an aerial LiDAR system, including the laser scanner consisting of the LiDAR unit (ranging), the beam deflection unit (scanning), the Global Navigation Satellite System (GNSS) for measuring the platform's position in georeferenced data, and the Inertial Navigation System (INS) that delivers the platform's attitude. The integration with Global Positioning System (GPS) enables the GNSS system to georeferenced data, ensuring accurate positioning. Aerial LiDAR surveys deliver centimeter-level or better accuracy, even in complex or heavily vegetated terrain. This makes it ideal for applications where detailed topographic data is critical, such as construction, environmental management, and urban planning, which has transformed industries by enabling surveyors to map hidden features beneath forest canopies and capture data in high density urban environments.

Resources

Water Resources

Impacts to waters of the United States as well as other water resources within the Project area have been considered and are unlikely to be adversely affected by implementation of the Proposed Action because only aerial surveys would be conducted, so no Project area impacts are expected.

Biological Resources

Since the Proposed Action only involves aerial surveys, no adverse impacts are expected on special status species, non-federally listed aquatic or terrestrial species, or their associated habitats.

Cultural Resources

Compliance with the National Historic Preservation Act (NHPA) Section 106 is demonstrated in the attached documentation (Attachment A), whereby, Reclamation California-Great Basin Archaeologist, William Norton, determined that federal appropriations for the proposed project is the type of undertaking that does not have the potential to cause effects to historic properties, should such properties be present, pursuant to the Title 54 United States Code §306108, commonly known as Section 106 of the National Historic Preservation Act (NHPA) regulations codified at 36 CFR Part 800.3(a)(1). Therefore, Reclamation has no further compliance requirements under NHPA Section 106, pursuant to 36 CFR §800.3(a)(1).

Indian Trust Assets

Indian Trust Assets (ITAs) are legal interests in property or rights held in trust by the United States for Indian Tribes or individuals. As depicted in Attachment C-1, the upper boundary of the Project area at Keno Dam (at 42.1345528°N and 121.9488667°W) is located approximately 6.28 miles west of the Klamath Tribal Designated Statistical Area (TDSA) in Klamath County, Oregon, while the lower boundary of the Project area at R-Ranch (at 41.9034361°N and 122.4658917°W) is located approximately 15.47 miles northeast of the Karuk Tribal Reservation in Siskiyou County, California (Attachment C-2).

On March 10, 2026, Reclamation's Klamath Basin Area Office ITA Coordinator, Torrey Tyler, stated that "Based on the nature and location of the planned work, it does not appear to impact Indian hunting or fishing resources or water rights."

Because the project scope is limited to conducting aerial surveys, there will be no ground disturbance activities, in water work, or collection of any physical samples (water, sediment, or vegetation), so it is reasonable to assume that the Proposed Action will have no effect on ITAs.

Regulatory Compliance

The Tribe must comply with all regulatory compliance requirements and all applicable federal state, and local environmental, cultural, and paleontological resource protection laws. These may include, but are not limited to, the National Environmental Policy Act (NEPA), the Migratory Bird Treaty Act (MBTA), and the Endangered Species Act (ESA), as well as comply with all applicable

regulatory provisions required by the Federal Aviation Administration (FAA).

Environmental Commitments

Since the Proposed Action is based exclusively on aerial surveys, Reclamation has determined that the Proposed Action is unlikely to affect any federally listed and non-listed aquatic or terrestrial species, and their related habitats, so no environmental commitments or mitigation measure will be necessary.

Exclusion Category

516 DM 14.5 E.1 – (1) Financial assistance, cooperative agreements, grants, loans, contracts, or other funding, where (a) the underlying action being funded would be covered by another Reclamation CE if Reclamation were implementing the action itself, or (b) the action is confined to areas already impacted by farming or development activities and the impacts are expected to be minor and localized.

Extraordinary Circumstances

Below is documentation that Reclamation considered whether there were extraordinary circumstances associated with the proposed action. The criteria reflect the Extraordinary Circumstances detailed in 43 Code of Federal Regulations (CFR) §.46.215 and Departmental and Reclamation policy on Indian Trust Assets (ITAs).

Extraordinary Circumstance	Yes, No, or Uncertain
1. The proposed action would have significant impacts on public health or safety (43 CFR 46.215(a)).	No
2. The proposed action would have significant impacts on such natural resources and unique geographical characteristics as historic or cultural resources; parks, recreation or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands; flood plains; national monuments; migratory birds; and other ecologically significant or critical areas (43 CFR 46.215 (b)).	No
3. The proposed action would have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks (43 CFR 46.215(c)).	No
4. The proposed action would establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects (43 CFR 46.215 (d)).	No

5. The proposed action would have a direct relationship to other actions that implicate potentially significant environmental effects (43 CFR 46.215 (e)).	No
6. The proposed action would have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places as determined by Reclamation (LND 02-01) (43 CFR 46.215 (f)).	No
7. The proposed action would have significant impacts on species listed, or proposed to be listed, on the List of Endangered or Threatened Species, or have significant impacts on designated Critical Habitat for these species (43 CFR 46.215 (g)).	No
8. The proposed action would significantly limit access to, and ceremonial use of, Indian sacred sites on Federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites (43 CFR 46.215 (h), and 512 DM 3)).	No
9. The proposed action would contribute to potentially significant effects resulting from the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act, and 43 CFR 46.215 (i)).	No
10. The proposed action would affect ITAs (512 DM 2 and Reclamation Policy Memorandum dated December 15, 1993).	No

NEPA Action Recommended

This document certifies that Reclamation has considered all relevant information raised in the NEPA process and that the NEPA process has concluded. The Proposed Action is excluded from further documentation through the preparation of an Environmental Assessment or Environmental Impact Statement. The Proposed Action as described above complies with the Endangered Species Act (ESA; 16 USC §1531 et seq.), Migratory Bird Treaty Act (MBTA; 16 USC §703-712), and the Bald Eagle and Golden Eagle Protection Act (BGEPA; 16 USC §668-668c).

The Proposed Action described above complies with all applicable laws, including the ESA and NHPA, and no environmental commitments or mitigation measures are necessary since aerial surveys are the sole focus of the Proposed Action, and no physical samples (e.g., water, sediment, or vegetation) would be collected during project implementation. Additionally, as proposed, there will be no ground-disturbing or construction-related activities, nor any in water work associated with this Proposed Action. Public involvement did not occur as part of this process.

Attachment A: NHPA Cultural Resource Compliance

CULTURAL RESOURCES COMPLIANCE
Division of Environmental Affairs
Cultural Resources Branch (CGB-153)

CGB-153 Tracking Number: 26-KBAO-128

Project Name: Yurok Tribe Mainstem Klamath River and Select Tributaries for Conducting Airborne LiDAR Surveys

NEPA Contact: Brian R. Wright, Senior Natural Resource Specialist

CGB-153 Cultural Resources Reviewer: William Norton, Archaeologist

Date: January 21, 2026

WILLIAM NORTON Digitally signed by WILLIAM NORTON Date: 2026.01.22 07:48:49 -08'00'

Reclamation proposes authorizing Airborne LiDAR surveys for the subject project. This is the type of undertaking that does not have the potential to cause effects to historic properties, should such properties be present, pursuant to the Title 54 U.S.C. § 306108, commonly known as Section 106 of the National Historic Preservation Act (NHPA) regulations codified at 36 CFR § 800.3(a)(1). Reclamation has no further obligations under NHPA Section 106, pursuant to 36 CFR § 800.3(a)(1).

The Yurok Tribe will conduct airborne LiDAR (Light Detection and Ranging or Laser Imaging, Detection, and Ranging) for determining ranges by targeting an object or a surface with a laser and measuring the time for the reflected light to return to the receiver. These LiDAR flights will be used for data collection to assist in the assessment of environmental baseline conditions and to develop habitat restoration designs. The Yurok owned plane will depart from and return to the airport in Yreka, CA and will typically be stationed at the Weaverville California Municipal Airport.

The flights will occur during periods when snow cover is absent and before foliage begins to appear on deciduous trees. This enables the best radar penetration to the ground. A second set of flights will occur later in spring after high flows have ceased and soon after spring growth for vegetation characteristics. The flight routes and geospatial data collected from each location will be reviewed by a technical Project Design Team of Yurok and partner Tribal staff representing various disciplines as well as agency personnel, and Trout Unlimited. The geospatial data will be acquired from the project locations to help restoration practitioners analyze site conditions, particularly considering changes from dam removal. The Design team will determine the data types to be collected, data collection specifications, and the timing of data acquisition activities. Aside from the primary purpose of informing the design process for this project, these data sets have many other applications from baseline environmental condition assessments to natural resource planning, to habitat restoration project design and implementation. These datasets will help establish a comprehensive baseline of current environmental conditions, which can be used to better understand the impacts of climate change and monitor changing environmental

conditions post dam removal. There will be no ground disturbing activities related to completing the proposed flights because the current on-the-ground LiDAR markers (i.e., temporary 4-foot by 4-foot crosses) were constructed as part of previous surveys and are still in a usable condition.

If approved, this project would not result in any ground disturbance, modifications to facilities, or change in land use.

This document is intended to convey the completion of the NHPA Section 106 process for this undertaking. As defined, this action would not have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places as determined by Reclamation (LND 02-01) (43 CFR 46.215 (g). Please retain a copy in the administrative record for this action. Should changes be made to this project, additional NHPA Section 106 review, possibly including consultation with the State Historic Preservation Officer (SHPO), may be necessary. Thank you for providing the opportunity to comment.

Attachment B: Overview Maps of Project Area

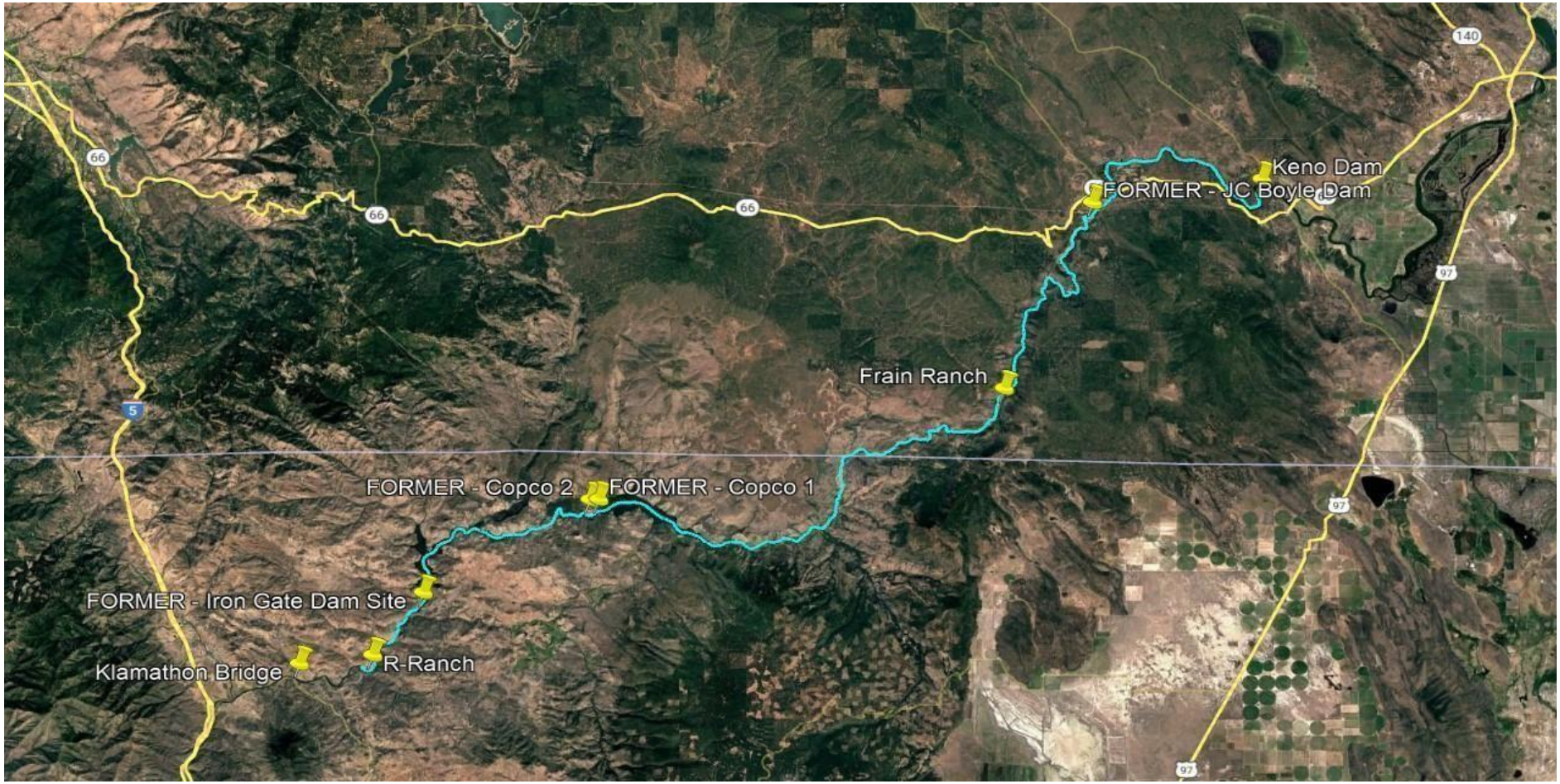


Figure 1. Satellite image of Keno Dam (upstream boundary of the Project area), the four (4) former Klamath River Dam Sites (i.e., J.C. Boyle, Copco #1 and #2, and Iron Gate) (upstream to downstream), and R-Ranch, the downstream boundary of the Project area. (Note: Frain Ranch and the Klamathon Bridge are included for reference purposes only).

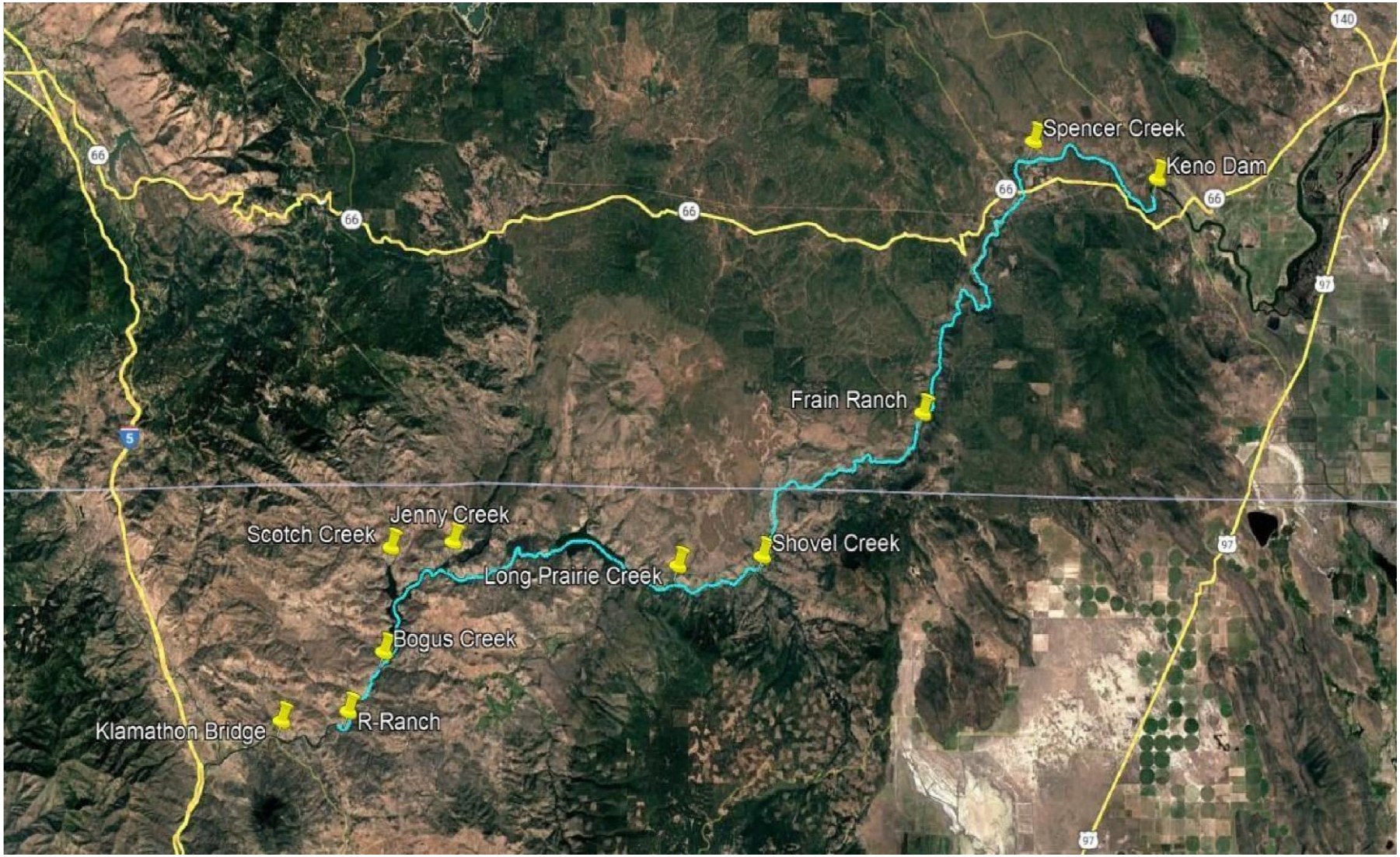


Figure 2. Satellite image of some of the mainstem Klamath River tributaries in the Project area, including Spencer Creek, Shovel Creek, Long Prairie Creek, Jenny Creek, and Scotch Creek (upstream to downstream). (Note: This figure includes long-term environmental monitoring sites in Bogus Creek and R-Ranch. Also, Keno Dam, Frain Ranch, and the Klamathon Bridge are both included for reference purposes only).

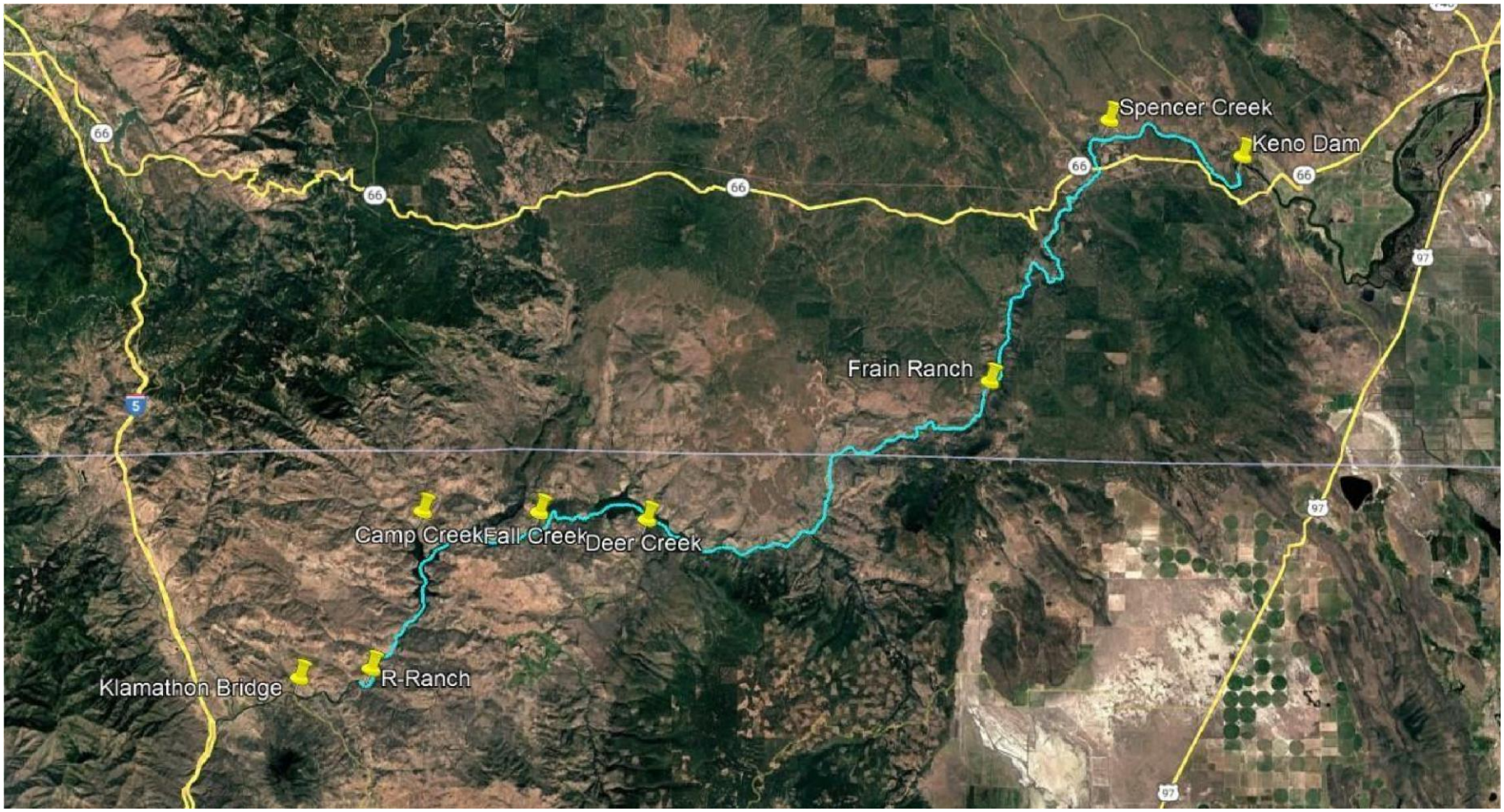
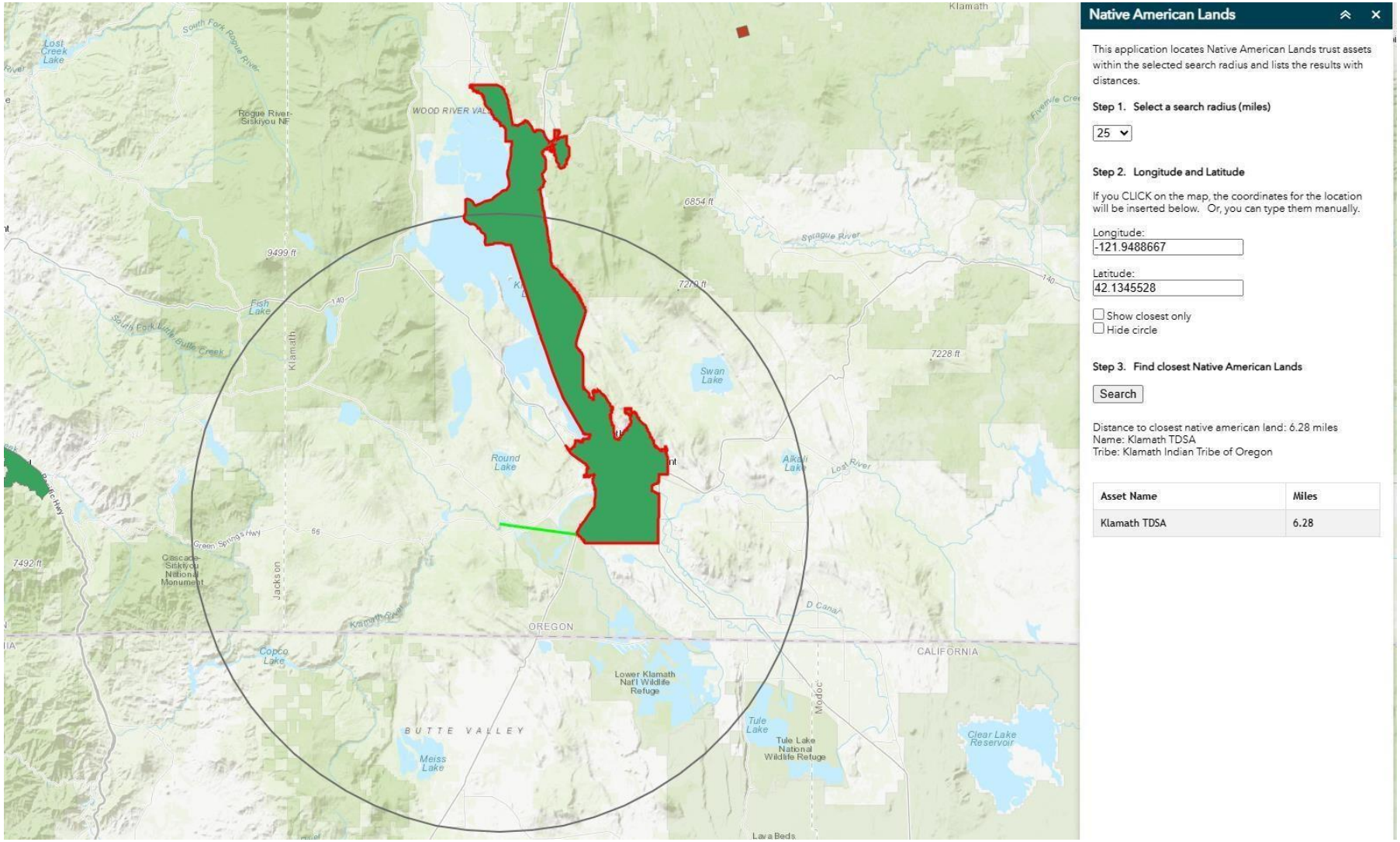


Figure 3. Satellite image of some of the mainstem Klamath River tributaries in the Project area, including Spencer Creek, Deer Creek, Fall Creek, and Camp Creek (upstream to downstream). (Note: Keno Dam, Frain Ranch, R-Ranch, and Klamathon Bridge are included for reference purposes only).



Figure 4. Satellite image of some of the mainstem Klamath River tributaries in the Project area, including Shovel Creek, Klamath Hot Springs and Shovel Creek Wetlands, Long Prairie Creek, Deer Creek, Fall Creek, Jenny Creek, Scotch Creek, Camp Creek, and Bogus Creek (upstream to downstream). (Note: R-Ranch is included for reference purposes only).

Attachment C-1: Indian Trust Assets Compliance (Upper Project Area Boundary)



Attachment C-2: Indian Trust Assets Compliance (Lower Project Area Boundary)

