



Lahontan Cutthroat Trout Recovery South Fork Humboldt Subunit

Situation Assessment Report



 <p>COOPERATIVE riparian STEWARDSHIP</p>	<p>The National Riparian Service Team December 10, 2021</p>	 <p>U.S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT</p>
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BACKGROUND

Lahontan Cutthroat Trout History, Status and 2019 Updated Goals and Objectives

Lahontan Cutthroat Trout (LCT) was historically found in 12 large lake systems and occupied more than 7,000 miles of stream in the Lahontan Basin. Starting in the mid-1800s, over-harvesting of LCT, mining, grazing, logging, pollution, water diversions, dams and reservoirs, and the introduction of non-native trout species significantly reduced the amount and quality of habitat available for, and the numbers of, LCT. By the early 1900s, noticeable reductions in LCT numbers and populations had occurred. By the mid-1900s, LCT were extirpated from most major drainage basins, and generally restricted to isolated headwater systems. Today, LCT occupy less than 10% of their historical habitat and generally in small, isolated habitat fragments.

LCT was federally listed as endangered on October 13, 1970 and reclassified as threatened under the Endangered Species Act (ESA) on July 16, 1975 to facilitate management and allow for regulated angling. There is currently no designated critical habitat for LCT. The combined impacts of non-native species introductions and management, destruction of habitat, and habitat fragmentation were the primary reasons LCT was listed and remains threatened today. As of 2020, LCT has been listed under ESA for fifty years; however, the species continues to decline across its range.

The LCT Management Oversight Group (MOG) (established 1998) and the LCT Coordinating Committee (CC) (established 2017) were developed to manage and coordinate LCT recovery (**Appendix 1**). The MOG and CC are made up of executive and upper management/higher level technical staff, respectively, from the majority of agency and partner organizations involved in LCT recovery actions range wide. In 2019, the LCT CC and MOG developed the Updated Goals and Objectives (UGOs) to inform LCT conservation actions needed to achieve recovery for LCT, within an adaptive framework¹, and based on the conservation biology principles of representation, redundancy, and resiliency. UGOs are part of the LCT recovery plan and reflect current understanding of LCT biology, habitat requirements and threats, as well as provide a roadmap for range wide recovery and identify quantifiable criteria for delisting.

https://www.fws.gov/reno/sites/default/files/LCT%20UGOs_Final%2005.29.19.pdf

¹ Every five years a review of these UGOs will be conducted. Key tasks of the review process will include reviewing progress towards the goals and objectives, new scientific information, management experiences, and new estimates in climatic and hydrologic patterns and predictions. The UGOs document will be updated as necessary depending on the results of the review process. This adaptive approach could lead to the US Fish and Wildlife Service (USFWS) and the CC and MOG updating recovery and conservation targets identified in the UGO document to increase the effectiveness of LCT recovery efforts. The next review is expected to be initiated by the USFWS in cooperation with LCT recovery partners in January 2025. (NOTE: This is not the same process as the ESA 5-year status review).

To address the variables in habitat condition and threats for LCT across its historic range, the UGOs divide the range into three Geographic Management Units (GMU) to allow for flexibility in planning. Each GMU is further subdivided, resulting in ten LCT Management Units (LMUs): the Western GMU (Pyramid/Truckee, Carson, Walker, Independence and Tahoe), Northwest GMU (Quinn, Summit and Willow/Whitehorse) and Humboldt GMU (Humboldt and Reese) (**Figure 1**). The Humboldt LMU has been further divided into five hydrologic units or subunits (Little Humboldt, North Fork, Rock, South Fork and Upper).

Recognizing that the conservation actions needed to address threats and help the LCT thrive in Lake Tahoe are undoubtedly different than those needed to support recovery in the Humboldt River in Eastern Nevada, the UGOs do not prescribe where or how to complete land management actions. Rather, the UGOs provide flexibility and encourage collaboration with local stakeholders and partners to collectively identify recovery actions and where and how to meet the objectives for LCT recovery in each management unit. Each GMU has an associated team² that contains field and technical staff from the MOG Charter organizations and additional researchers knowledgeable in LCT conservation. Their purpose is to plan and implement on-the-ground LCT recovery actions, as well as regularly engage directly with stakeholders (**Appendix 1**).

Figure 1 – LCT Management Units

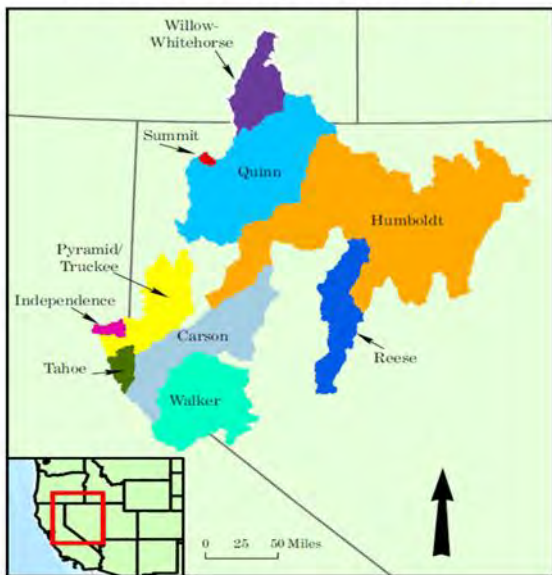


Figure 2 – South Fork Humboldt Subunit



² The Western GMU is comprised of the Caron, Tahoe, Truckee, and Walker Recovery Implementation Teams (RITs).

LCT Recovery Stakeholder Engagement Efforts

The LCT MOG and CC recognize that public support for LCT recovery and conservation is paramount to accomplishing the UGOs. To improve interagency coordination and inform the development of a stakeholder engagement strategy connected to the updated LCT recovery goals and objectives, a range-wide situation assessment was conducted by The Langdon Group between 2018-2019. A report summarizing the themes and recommendations was completed and several of the findings and recommendations remain relevant³. During the 2019 LCT Interagency Workshop the beginnings of a range-wide stakeholder engagement plan (Appendix E in the report above) was developed to help guide LCT recovery partners as they inform, engage, consult, and collaborate with the public and key stakeholders. The plan offers initial recommendations for coordination, communication, messaging, and outreach recognizing that different regions of the LCT range require different strategies and/or approaches to communicate and engage with stakeholders effectively.

The LCT CC is currently implementing components of the range-wide stakeholder engagement plan. For instance, the USFWS LCT Coordinator has provided presentations on LCT recovery and the UGOs at various organizational meetings. Additionally, the LCT CC sponsored a series of virtual meetings in October 2020 (interagency) and February 2021 (public) to share information and discuss next steps to move toward collaborative conservation actions that benefit communities and LCT recovery within the north and eastern portion of the Lahontan Basin. (<https://vimeo.com/532347323/4e1548930e>)

The LCT CC is now setting the stage to develop local collaborative efforts and establish decision-making processes to recover LCT in the various LMUs and subunits. Given current limited resources, it is impossible to collaboratively address the needs of LCT range-wide simultaneously. The LCT CC decided to focus the South Fork Humboldt River subunit (SFH) (**Figure 2**) for the following reasons:

1. Existing collaborative capacity in the area,
2. Landowner interest in working toward LCT recovery,
3. Outside interest has spotlighted habitat conditions,
4. Manageable size with some of the best habitat within the historic range of LCT.

Lessons learned from this pilot will guide approaches in subsequent units.

For the SFH subunit, the LCT CC chose to begin the stakeholder engagement effort with a situation assessment (SA). The purpose of an SA is to meet with all interested and affected parties to learn more about the various perspectives, concerns and opportunities and help shape next steps. This SA differs from the one previously completed because it is taking a deeper dive into the appetite and capacity to develop a collaborative conservation action plan for LCT recovery in the SFH. This process was chosen to ensure that all stakeholder groups

³ A copy of the report will be posted on the FWS website in January (<https://www.fws.gov/reno/content/lahontan-cutthroat-trout>).

including Tribes, local community members, ranchers, anglers, environmentalists, and recreationalists are involved in and benefit from LCT recovery actions.

South Fork Humboldt Situation Assessment Process

The National Riparian Service Team (NRST), Laura Van Riper (BLM) and Mike Lunn (contractor), was identified to conduct a situation assessment with people in the SFH area who would engage or be interested in the development of a collaborative conservation action plan for LCT recovery. The NRST is a Bureau of Land Management (BLM) interdisciplinary team that works throughout the West, across ownerships and jurisdictions, to facilitate cooperative riparian restoration and management by addressing both the social and bio-physical dimensions of these issues. They work to encourage relationships and coordination, build trust, and create a shared understanding and future vision. Pat Johnston, with the BLM's Collaborative Action and Dispute Resolution Program (CADR) and current LCT CC facilitator, also assisted with this effort. (<https://www.blm.gov/programs/natural-resources/wetlands-and-riparian/national-riparian-service-team> and <https://www.blm.gov/services/cadr>)

As previously stated, the purpose of a SA is to gain a more in-depth understanding of both the ecological and social issues and opportunities within the area. This type of assessment draws on published information (including various websites), past knowledge of the SA team (all of whom have been involved in these and similar conversations in NV over the years), and the LCT-specific stakeholder discussions that occurred July-September. SA findings are used to inform next steps that are responsive to site-specific conditions or issues.

During the period of July 19-23, 2021, the SA team traveled to Elko, NV. They met face-to-face with approximately 40 people to listen to their perspectives, concerns, and suggested opportunities for working together to develop a plan for LCT recovery. Telephone or Zoom conversations occurred with approximately ten other individuals. **(Appendix 2)**

An initial participant list was developed by representatives of the LCT CC and included a broad and diverse spectrum of stakeholders and interested parties. The SA team added individuals to the initial list based on their previous work in northern Nevada. Others were added at their request as they became aware of the work. Individuals on the initial list were sent a letter in June 2021 **(Appendix 3)** informing them of the opportunity to participate in the situation assessment, and follow-up contacts were made. Some people forwarded the letter within their networks, generating additional interest and conversations.

SA team members met with individuals, and occasionally a few small groups, with discussions typically an hour or more. The purpose of the stakeholder discussions was to: (1) learn about the local situation and how the new UGOs might be best implemented there; (2) meet involved parties and begin building relationships with them; (3) understand their perspectives of the situation; (4) hear about the issues with which they are concerned; (5) gain their insights on whether or not there may be a productive role for a collaborative approach and/or other

actions that might help address issues and facilitate communication and coordination; and (6) get their suggestions for subsequent activities, if any. With each conversation, it was noted that everything said was confidential; nothing would be attributed to any individual in the report. The SA team did not take notes during the discussions, beyond simple items such as cited documents, contact information for other people, or other similar small reminders.

During the discussions, the SA team used a model of 'listening with respect.' After initial introductions, the team listened to the perspectives and insights of participants, without judging the content. People were encouraged to speak from their own knowledge and perspective about the situations they felt were most important. Some general questions were asked by the SA team to prompt discussion and clarify points that were being made. This approach helps foster a sense of trust between the participants and SA team, and provides a foundation for working together. Discussions were also designed to begin to create a shift in thinking within the participants, in some instances helping move them beyond the current situation to ideas for how the situation might be improved for all parties. In addition, participants were provided opportunities to ask questions about LCT recovery planning or whatever they wanted more information about.

SFH Situation Assessment Report

The SA report documents, in general terms, the issues and concerns that were identified during the situation assessment and provides recommended next steps based on this information. This report will be distributed to all SA participants and invitees, as well as posted on the USFWS website in January (<https://www.fws.gov/reno/content/lahontan-cutthroat-trout>).

The report is not meant to be a comprehensive statement of fact; rather, it represents the personal knowledge and opinions of the people with whom the team spoke. By necessity, this report condenses, summarizes and perhaps simplifies a huge body of complex information. In some cases, the information provided by one person or group conflicted with other accounts or with published documents and the report reflects this. The discussions and subsequent report are not designed to ascertain the accuracy behind individual statements but are intended to identify and document held perceptions. As a result, it very likely contains what some people view as errors or omissions, and clearly cannot capture all of the feelings and beliefs that were heard during the discussions. The range of opinions and perceptions that exist is the starting point for exploring the potential to develop understanding and shared visions.

After reviewing the document, participants are welcome to send comments regarding needed modifications or clarifications, additional information and/or different opinions to Laura Van Riper (ivanripe@blm.gov). Those comments will be appended to the documents as received and an updated document will be available on the USFWS website.

SFH Specific Findings

Participants were generally supportive of the new and flexible recovery approach outlined in the UGO document and freely shared their perspectives, concerns, and suggestions during the SA process. Some participants focused specifically on the SFH, while others focused range wide. The remainder of the report addresses each of these respectively.

Regarding LCT recovery in the SFH, the UGO document provides broad objectives for recovery activities within the Humboldt LMU; more specific objectives are provided at the subunit level. It is important to note that ALL Humboldt LMU and subunit objectives must be satisfied to achieve LCT recovery within the SFH subunit. A listing of potential LCT recovery streams in the SFH was excerpted from the UGO document and is included in **Appendix 4**.

Humboldt LMU-Wide Objectives:

- (HU 1) Remove threats (*i.e.*, competition, predation, hybridization) associated with non-native trout species to allow for the formation and/or maintenance of HU LCT populations identified in HU objectives 3–13.
- (HU 2) Ensure all habitats required to meet HU objectives 3–13 function ecologically. In some cases, this may require restoration and/or management changes.
- (HU 3) Maintain existing, isolated populations that cannot individually meet the recovery population benchmarks provided in the UGO document. Actively manage those populations based on guidance provided in the pending LCT Genetics Management Plan.

South Fork Humboldt Hydrologic Subunit Objectives:

- (HU 10) Establish meta-population dynamics in at least 1 recovery population.
- (HU 11) Maintain (or establish if necessary) at least 2 additional recovery populations that are spatially separated from each other, and the meta-population required by HU objective 10.

Confusion Regarding Humboldt LMU Objectives (HU 1-HU 3)

As previously noted, all Humboldt LMU and SFH subunit objectives must be satisfied to achieve LCT recovery in a subunit. In other words, the threats (*i.e.*, competition, predation, hybridization) associated with non-native trout species must be removed (HU 1) and associated habitats must function ecologically (HU 2) in relation to the one interconnected metapopulation (HU 10) and the two additional redundant and resilient populations (HU 11). While the relationship between HU 1/HU 2 and HU 10/ HU 11 is straightforward, the relationship between HU 1/HU 2 and HU 3 is less clear.

HU 3 requires the maintenance of existing, isolated LCT populations that cannot individually meet the recovery population benchmarks provided in the UGO document. HU 3 further highlights the need to actively manage those populations based on guidance provided in the LCT Genetics Management Plan, which is in development. There is significant difference in

understanding and opinions about what HU 3 means and, therefore, what is required. Is the intent to focus on all existing, isolated populations of LCT or is it to focus solely on those populations that have important genetic characteristics? Taken one step further, does HU 1 (removal of non-native threats) and HU 2 (ecologically functioning habitats) apply to all LCT occupied systems or only to those isolated LCT populations that have important genetic characteristics as identified in the forthcoming LCT genetics management plan? This is an important point to clarify within the SFH and range-wide because its interpretation has wide-reaching implications.

Establish Meta-Population Dynamics in at Least One Recovery Population (HU 10)

Based on the information provided in **Appendix 4**, there are two options for creating at least one interconnected metapopulation (HU 10): (1) Long Canyon, North Furlong, Segunda and Mahogany creeks (aka Gund Ranch project) or (2) Smith creek, Middle and North Fork Smith creek and Gennette creek (aka Smith Creek Complex).

Prior to the initiation of the SA, team members were informed that preliminary discussions regarding the potential establishment of an interconnected metapopulation have occurred between the USFWS, US Forest Service (USFS), Nevada Department of Wildlife (NDOW) and the Gund Ranch. The intent is to restore a genetically pure strain of LCT within four interconnected creeks (Long Canyon, North Furlong, Segunda and Mahogany) on USFS managed land. The project would require removal of non-native trout via a series of rotenone treatments, which would allow for the expansion of existing LCT populations currently located in the headwaters of these systems. Additional LCT re-stocking efforts would further enhance species viability and the development of a barrier on private land below would block upstream migration of non-native trout.

This project was discussed with most, if not all, of the SA participants to understand their thoughts and opinions and no one raised any serious 'red flags.' The four main players (USFS, USFWS, NDOW and the Gund Ranch) are supportive of the project and most agency specialists purport the project, if successful, would meet the UGO requirement for meta-population dynamics (HU 10). It was noted, however, that the timeline for project completion would be at least 10 years.

Since the USFS managed lands where the project would occur is flanked by Tribal and private lands (Gund Ranch) to the west and almost inaccessible terrain to the east, there is very limited public access to the project area. This eliminates most, if not all, conflict with sport anglers and the potential for illegal introduction of non-native species. The Gund Ranch owners are amenable to having a barrier placed on their private land and they see little conflict with their USFS grazing operations because stream systems are largely inaccessible to cattle due to topography. The Gund Ranch's primary concern is possible cattle displacement caused by project work crews as eradication of non-native species is conducted and subsequent

reintroduction and monitoring activities occur. Careful coordination with the Gund Ranch on timing and efforts to reduce the number of work projects will be imperative going forward.

The South Fork Band of the Te-Moak Tribe is generally neutral in their view of the project and sees their role as primarily providing access to USFS project land. It was advised that project proponents request a spot on the agenda for an upcoming Tribal Council meeting to discuss project specifics and secure authorization for access, preferably in writing to help transition between different Councils. The Tribe wants to remain informed throughout project implementation.

The seemingly biggest hurdle that the Gund Ranch project will face is the physical and logistical challenges posed by steep and rocky terrain and little trail access. Getting the necessary equipment to the top of the stream systems, then working back down applying the rotenone (likely repeated during two separate years), following up with electroshock monitoring to verify removal of unwanted species, and additional monitoring over time to validate successful reintroduction poses major safety hazards to crews and very careful planning for each phase will be needed. Transportation of crews and equipment will likely require a combination of hiking, horseback and packing, and possibly helicopter ferry of equipment and/or crews.

Per the National Environmental Policy Act (NEPA), an environmental analysis by the Forest Service for the project will be required, including an analysis of possible impacts and alternative approaches to maintaining Wilderness values on Federally managed lands. A pesticide use permit and Nevada Department of Environmental Protection permit will also be required for applying the rotenone in a federal waterbody. Portions of the project area are within the Ruby Mountain Wilderness and, as a general rule, the use of mechanized tools and helicopter transport would not be allowed. However, since the purpose of the project would be to restore a genetically pure strain of LCT, which Forest Service believes is a positive benefit to Wilderness values, it is possible that these types of actions could be approved once alternatives are properly considered and documented. It was noted that, going forward, having a consistent approach for LCT treatments and reintroduction on BLM and USFS managed lands would be helpful (e.g., programmatic NEPA for rotenone).

Regarding stakeholder engagement, the general sentiment was that the project should be designed and implemented by the four principal parties (USFS, USFWS, NDOW and the Gund Ranch) in coordination with the South Fork Band of the Te-Moak Tribe as noted above. Key stakeholders such as neighboring landowners and permittees, the Jiggs Conservation District (CD), the NV Cattlemen's Association (NCA) and others would like to be regularly informed about project implementation and outcomes preferably through one-on-one conversations. Additional project updates should be provided to the public at large through the USFWS website or other avenues.

In addition to the Gund Ranch project, a few participants noted that the establishment of an interconnected metapopulation might also be possible within the Smith Creek complex. However, there were concerns that these systems lacked physical and legal barriers to public

access, involved more grazing allotments and permittees, and were more susceptible to illegal reintroduction of non-native trout and conflicts with those anglers who prefer non-native sport fish.

As a possibility to reduce opposition from sport anglers, one Smith Creek neighbor noted he had water rights that he would be willing to sell to NDOW or some entity for them to be used for sport fish enhancement in Zunino Reservoir (aka Jiggs Reservoir) near Jiggs. NDOW has invested money in developing this lake as a recreation reservoir, but in some years, it lacks dependable water. There also is a consideration that a hatchery might be developed in this area to focus on pure strain LCT. NDOW officials are aware of these proposals.

Whereas the 'Gund Ranch project' was often referred to as 'low hanging fruit,' the Smith Creek complex not only has potentially more challenges but also has not been discussed or vetted with any of the principal parties. That said, a few participants noted that, given the climate resiliency of the SFH systems, it is worth exploring potential opportunities for establishing more than one interconnected metapopulation. Further discussion and a decision regarding whether to explore adding the Smith Creek option should occur as part of a local-level collaborative process.

Maintain or Establish at Least Two Redundant (Resilient) Populations (HU 11)

In addition to the establishment of at least one interconnected metapopulation, the LCT UGOs also require the maintenance or establishment of at least two redundant and resilient populations within SFH. Again, given the climate resiliency of SFH systems, some believe it is worth considering more than two options. Although some preliminary insights regarding potential options are provided below, further discussions and decisions regarding which two (or more) resilient and redundant populations of LCT to move forward should occur as part of a local-level collaborative process.

Some participants noted that LCT recovery projects have been completed in a few streams over the years (i.e., Green Mountain Creek complex, Pearl Creek and Brown Creek); however, a few noted that they were unaware of the project outcomes. The most recent NDOW Field Trip Reports for Green Mountain Creek complex (2018), Pearl Creek (2020) and Brown Creek (2019) can be found in **Appendix 5**. Based on the list of potential recovery streams (**Appendix 4**), NDOW trip reports and SA discussions, Pearl Creek seems to be the most viable option for creating/maintaining one redundant and resilient population and has been the site of an ongoing mechanical brook trout removal project. Streams within the Smith Creek complex could provide other options with some work. Dixie Creek is listed as another potential option, but some believe it is not resilient for various reasons. The Green Mountain Creek LCT recovery project has been hindered by climate/weather impacts. The SA team is unsure why Brown Creek is not noted within the UGO list of potential recovery streams; however, one reason might be because LCT populations have not yet been established and, if established, would exist in a very small (~1 mile) stretch of stream.

During SA discussions and document review regarding possible options for meeting HU 11, it became increasingly clear that the SFH list of potential recovery streams needs to be reviewed to confirm and/or add areas that are *ecologically* potential options for meeting UGOs but are not currently listed and remove options that are no longer viable. Some of these streams may have supported LCT at one time, or currently support LCT small numbers, but are not likely to sustain resilient LCT populations in the future. Some SA participants felt it would build credibility for the recovery effort if agencies ‘cleaned up the books,’ recognizing that some streams will never host LCT again and instead focusing on those streams that still have recovery potential. It was noted that this concern was largely addressed between the transition from the 1995 Recovery Plan to the 2019 UGO document; however, some loose ends remain.

To make these determinations, a standardized set of criteria should be developed (i.e., do LCT populations currently exist, are non-natives present, have projects been previously completed, what is the riparian and habitat condition, length of system with perennial water flows, etc.) and this information should be stored in some type of corporate database. It will be important that these determinations are made based on whether the system can support resilient LCT populations into the future; rather than simply deeming systems unsuitable because there may be some large hurdles to overcome. Similar efforts should be undertaken for LMUs and subunits range wide. This would help identify stakeholders and allow for more robust conversations during the SA process and in follow-up collaborative efforts. Decisions regarding where to focus recovery efforts, based on this initial list of options, will need to be made collaboratively and include consideration of social, political, and economic factors as well as ecological.

Livestock Management and ESA Consultation

Many SA participants expressed serious concern over riparian conditions on some BLM, and to a lesser degree USFS, managed grazing allotments in the SFH. A number of these individuals questioned why attention is being focused on establishing new LCT populations when existing populations or areas with potential habitat are not being adequately protected. A few participants brought photos, monitoring data, and letters of concern documenting degraded riparian conditions on existing or previously occupied LCT streams. They have also shared this information with the appropriate BLM and USFS line officers and others. In some instances, existing allotment management plans and associated Biological Opinions (BO) are not being followed, monitored, or enforced; whereas, for others, updated/current management plans and BOs do not exist. Some people believe the only management that could work would involve removal of all livestock from allotments; with legacy and ongoing habitat degradation, there is no trust from some that continued cattle use can support needed restoration.

Under Section 7 of the ESA, federal agencies must consult with the USFWS when any action the agency carries out, funds, or authorizes (such as through a permit) that *may affect* a listed endangered or threatened species or designated critical habitat. When a federal agency

determines, through a biological assessment (BA) or other review, that its action is *likely to adversely affect* a listed species, the agency submits a request for formal consultation to the USFWS. During formal consultation, the USFWS and the agency share information about the proposed project and the species or critical habitat likely to be affected. At the conclusion of this process, the USFWS prepares a biological opinion (BO) stating whether the federal agency has insured that its action is not likely to *jeopardize the continued existence* of a listed species and/or result in the *destruction or adverse modification* of critical habitat.

<https://www.fws.gov/midwest/endangered/section7/section7.html>

Over the past few years, Freedom of Information Act (FOIA) requests and Notices of Intent (NOI) to sue from the Western Watersheds Project and Center for Biological Diversity have drawn attention to the fact that some grazing permits in a few USFS Districts had not completed section 7 consultation for LCT and did not have BOs for grazing on LCT occupied streams. In response, the USFS has recently completed consultation on their grazing allotments. BLM proactively conducted an inventory of completed section 7 consultation for LCT occupied streams and found that there were a few allotments that were not in compliance. The BLM has completed a programmatic BA for the few allotments within their purview. Some SA participants noted that the different approaches to LCT consultation taken by USFS and BLM, and associated next steps, has created confusion for grazing permittees and others.

The remaining section speaks to the two processes occurring within the SFH subunit separately to minimize additional confusion. For the USFS (Ruby Mountain, Jarbidge & Mountain City District), formal consultation was initiated with the USFWS and a final BO was completed in 2020. Permit modifications were not required or completed as a result of this consultation. Feedback received during the SA and prior indicated that the local USFS consultation effort went better than expected due to USFS efforts to communicate and coordinate with the permittees and others throughout the process. However, it was noted that even though permit modifications were not required, increased attention is being given to ensuring that the grazing permits are being followed and closely monitored. Some likened this to ‘being under a microscope’ and others wondered whether the ‘screws would be tightened in the future,’ especially in areas where existing permits had not been previously followed or monitored ‘to the letter.’

For the BLM (Elko District – Tuscarora and Wells Field Offices), formal consultation was initiated with the USFWS and a programmatic BO was also completed in 2020. Unlike the USFS process, the BLM’s programmatic BO states that Grazing Term Permits, including required Land Health Evaluations, would be completed in advance of future consultation. Feedback received during the SA indicated that the local BLM effort has been confusing and, in some instances, has resulted in increased uncertainty and concern. It is well known that NV BLM struggles with a substantial Grazing Term Permit Renewal (TPR) backlog. As a result, many of the allotments and permittees in question have never been through a formal TPR and do not fully understand either the TPR process, or the subsequent USFWS consultation process. More importantly, they do not understand when and how to effectively engage in these processes. At least one SA participant noted that it would be useful if the BLM and USFWS: (1) fully explain the TPR and

consultation process to all involved permittees and (2) generate a simple flow chart that explains the decision process and consequence to landowners/permittees from species listing to on the ground (public or private) action.

Range Wide Findings

Although the SA was primarily focused on the SFH, many participants also spoke about broader scale themes. The following issues and concerns apply locally as well as range wide. As previously stated, most SA participants were generally supportive of LCT recovery efforts, and the approach taken under the 2019 UGOs. However, one common sentiment among nearly all SA participants was the recognition that changes must occur in a variety of ways if LCT recovery has any chance of success; ‘business as usual’ will not work. It was widely recognized that resolution to some of the issues discussed below will require understanding and strong commitment by the Federal, State and Local agency leadership at all levels, as well as engagement from the many users and stakeholders involved.

Potential for Listing LCT as ‘Endangered’

As previously stated, LCT have been listed as ‘threatened’ under the ESA for over 50 years and data continues to show a downward trajectory for occupied habitats and populations. In short, past efforts to recover LCT across its range have not worked.

Ongoing Threats to LCT

According to the LCT CC, non-native trout are the single greatest threat to LCT. Decades of NDOW-supported non-native trout (i.e., rainbow, brown and brook trout) introductions across the state have provided fishable populations and quality angling opportunities. Unfortunately, these fish impact native LCT through hybridization, competition, and depredation. Cumulatively, these impacts resulted in the near loss of LCT across its historical range, resulted in its listing 50 years ago, and could potentially continue to hinder LCT recovery. (See *Non-Native Trout* section below).

The second most significant and ongoing threat to LCT is habitat loss, fragmentation, and degradation. Riparian habitat across NV has been altered due to dams, diversions, unmanaged or improperly livestock grazing, fire, mining, and lack of wild horse management. Some of the current issues are a result of unmanaged land use practices that continue to occur in areas that were heavily impacted from legacy uses in the distant past. Although it is well known that habitat issues can often be addressed by applying best management practices to various land uses, many SA participants noted that numerous riparian areas across NV are still subject to continued degradation. Overall, there was a general recognition that the rate of improvement

in riparian habitats would need to accelerate to meet the demands for LCT recovery and other riparian related values. (See *Riparian Condition and Management* section below).

LCT Five-Year Status Review

As required under the ESA, the USFWS is currently undertaking an overdue five-year status review, to be completed in 2022 (last one completed in 2009), to ensure that LCT has adequate protection under law (<https://www.fws.gov/endangered/esa-library/pdf/five-year-reviews.pdf>). The reviews assess individual threatened and endangered species to determine whether its status has changed since the time of its listing or its last status review, and whether it should be classified differently or delisted.

Given the depressed population and habitat conditions across most of the range, along with impacts from climate change, some of the SA participants believe that LCT will likely go from 'threatened' to 'endangered' unless management and subsequent outcomes change across a large scale. This could greatly impact multiple land uses (particularly grazing and angling) on federally managed and private lands with occupied LCT streams. Additionally, if listed as 'endangered', potential habitat on federal and private lands could be designated as critical habitat. (<https://www.fws.gov/verobeach/MammalsPDFs/CriticalHabitatFactSheet.pdf>). Currently, no critical habitat has been designated for LCT. This action could trigger economic and social disruptions in some areas because critical habitat is generally managed the same as occupied habitat

LCT Recovery Planning and Documentation

There is a relatively short (5-10 year) window of time available to demonstrate that the new approach for LCT recovery outlined in the UGO document is working. Most specialists have a strong sense of urgency about moving forward with the UGOs. There is a belief that the listing process may be nearing a crisis point and cannot be effectively managed by agencies going forward alone or behaving as if doing the same things as have been done in the past will lead to different results. It is well known that it will take many years, or decades, and state-wide coordination and support among the various agencies and partners to fully recover LCT. In the interim, it is important that the LCT CC and MOG move ahead rapidly to develop a plan (with action items, timeframes and expected outcomes) for work in other LMUs and subunits in advance of the next five-year review.

Several SA participants were curious about how the overall LCT recovery effort will move forward and how evidence will be gathered and shared in a transparent manner to document that LCT recovery is occurring on a unit by unit and state-wide basis in advance of subsequent five-year reviews. As previously noted, it is impossible to address the needs of LCT simultaneously range-wide; thus, a pilot effort in the SFH was initiated. While it is likely impossible to focus on all units at once, as stated, people are curious about what's next.

- In what order will LCT recovery in subsequent GMUs, LMUs and subunits be addressed and why?
- What criteria will be used to determine where and how to invest time, money, and expertise in the various GMUs, LMUs and subunits?
- How will progress toward recovery be assessed in the next five-year review (due 2027)?
 - What are the expectations for accomplishment between now and then that will demonstrate acceptable forward movement on planned progress?
 - How will both on-the-ground actions and steps toward planned action be assessed?
- Is it possible to de-list LCT within individual GMUs rather than range-wide (i.e., genetically distinct populations)? If so, is it better to focus time, energy, and resources on one GMU at a time rather than having multiple efforts that are spread too thin to be effective?

Agency Capacity

The USFS and BLM units in Nevada are among the most poorly financed and staffed in the western U.S. Exacerbating this situation is the high levels of staff turnover in many BLM and USFS offices (particularly those in smaller towns). Many of the changes and new projects that will be needed to meet the UGO's are on the lands managed by those two agencies. Without added funding and staffing along with strongly focused leadership from USFS, BLM, USFWS and NDOW, it is unlikely that any substantial progress can be made on the ambitious expectations engendered by the UGO's and likely required by the results of the current five-year review.

Range management is a huge workload across the state, with hundreds of grazing allotments on most BLM Districts and low levels of staffing to cover them for planning, monitoring and compliance. Some permittees said they have had periods where the range conservationists assigned to their allotments would turn over several times in a year or two, and none met with the permittee or reviewed their allotments. Lack of or incomplete records at the various offices concerning allotment information and data, such as assessment, monitoring, and administration is another serious problem in terms of orienting and transitioning new staff.

Some participants noted there is little orientation to the job or communities and almost no mentoring when new employees arrive. There is also a long-standing attitude or tradition of "anti-Federal Government" among some of the communities and people, and some employees have felt unwelcome. For some entry level jobs, there is not as much hiring competition compared to other locations considered more desirable based on community and state characteristics. Thus, some new hires see the opportunity to get a job, then move on to other areas deemed more desirable as soon as possible. Morale is low in some locations, with employees citing poor or inadequate leadership to address priority work in recognition of the scarce financial and/or staff resources.

Discussions were held with some SA participants about ways to compensate or manage differently to get the needed work done and to provide consistent personnel that know and understand the landscape and culture in an area. Much of the needed work involves technical or physical labor that can be done at levels below professional jobs. These could include such things as basic inventory, monitoring, and data collection; the construction, maintenance and monitoring of fences and rangeland improvement projects; and rangeland/riparian riders to improve movement and distribution of cows. Developing a technical workforce in partnership with University of Nevada Reno or the Great Basin college in Elko might provide opportunities for young people who want to work in the outdoors, call Nevada home, and help the land management agencies with workforce. There seems to be little disagreement that longer tenure of employees is desirable, and typically the technical and labor positions tend to remain in place longer.

Turnover also occurs with many of the managerial positions in the field and district offices, and the common approach to detailing employees for short term or longer assignments as opposed to filling vacancies permanently as soon as possible often reduces the capacity of both the receiving and sending units. This is a bigger problem in most cases than simply at the local units, as the recruitment and placement programs nationally and regionally are slow and cumbersome. Several people talked about the possibility of using Associate or Deputy positions not as a stepping-stone to higher positions, but rather as a way of bringing continuity to operations and relationships over time by tailoring selection criteria to match the desires of some individuals to remain in one place for several years.

Non-Native Trout

There is ongoing concern and confusion regarding NDOW's historic and current program of stocking non-native trout. Many believe that NDOW's historic stocking programs have created, or at least exacerbated, the decline in LCT populations range wide; and there is not a common understanding of, or agreement on, NDOW's current stocking program.

According to some, NDOW no longer stocks non-natives in streams occupied by LCT in the Humboldt and Northwest GMUs⁴. In areas where LCT exist in the Western GMU, and in unoccupied streams where future LCT recovery may be possible in all GMUs, NDOW is committed to only stocking sterile non-native species (i.e., Tiger Trout, triploid Rainbow Trout) or LCT. The rationale for this is that if the decision was made to focus on LCT recovery, it would be relatively easy to eradicate these sterile populations since there is an option to simply wait until the last generation of fish dies off (in addition to rotenone treatments).

Others argue that there should be no introduction of non-natives into any LCT occupied streams, especially smaller ones. They note that although introducing sterile non-native

⁴ There has been at least one instance of accidental introduction of non-native trout into an LCT occupied stream within the Humboldt GMU.

species is helpful, the benefit only applies to rainbow trout since they are the only species that really hybridize with LCT and often a small percentage are not sterile. Furthermore, all trout provide competition and predation threats to LCT. Some people also expressed concern over NDOW's ongoing program to purposefully hybridize LCT and rainbow trout (cut-bow) for sport fishing purposes.

A few SA participants noted that in some areas there will be conflict among anglers over LCT recovery and the possibility of illegal non-native re-introduction in areas managed for LCT. They suggested that, as an incentive, NDOW and other LCT recovery partners should commit to providing high quality sport angling opportunities in areas that do not conflict with LCT recovery.

Riparian Condition and Management

Riparian areas occupy a very small percentage of the overall land base; but are highly important to nearly all resources. Maintaining the proper functioning condition of riparian areas is critical to achieving multiple benefits including water storage, fish and wildlife habitat, forage for grazing, various recreational values, etc. Thus, concern over the health of these resources was a common thread throughout most discussions.

Riparian resources are one of the most resilient features of the landscape and generally respond well to management actions designed to restore and maintain function. However, depending on the extent of degradation and the specific potential of a particular system, conditions may take a long time to improve. There are broad differences in riparian conditions across the range of LCT. Examples of excellent recovery and management were discussed, as were situations where riparian conditions have likely been non-functional for the last century. Some participants provided examples of areas where riparian condition on LCT occupied and recovery streams continues to degrade because livestock grazing and/or wild horse and burro management plans are not being followed, monitored, and/or enforced by USFS and BLM. Many participants also noted that NV is in its second year of serious drought, which is further impacting riparian conditions. That said, even "good" years are dry; precipitation averages 8" – 12" across much of the state.

Overall, SA participants understood the importance of riparian values, but also recognized the need for better approaches and actions to protect, maintain and restore those areas. However, there were a few people who believe that riparian areas have 'always looked that way' and see little or no benefit to changing management. At first blush, this demonstrates the need for an increased understanding of riparian health and the attributes and processes that constitute properly functioning systems. Efforts to this end have been ongoing for several decades by the NRST, the NV Creeks and Communities team, University of Nevada Reno Cooperative Extension, and others. However, it was noted that broad sweeping educational efforts about riparian health/benefits and options for improving condition often do not work because the people who are already working to effectively manage riparian condition are usually the ones who show up.

Several SA participants noted, regardless of whether users understand or agree with the concepts associated with riparian function, it is a requirement on USFS and BLM managed lands. They also noted that if this standard was achieved range-wide, it would go a long way toward fostering LCT recovery because they often do not need more than functional riparian systems to survive⁵. To make progress toward achieving this end, the LCT CC established a Habitat Core Team in 2019. This team is focused on obtaining the needed assessment and monitoring data to determine riparian condition across the range, determine trends through time, and prioritize future management efforts.

It is recognized that Proper Functioning Condition (PFC) riparian assessments (or similar assessment methods) and regular riparian monitoring data does not currently exist in many areas and the likelihood of getting this information range-wide using boots-on-the-ground protocols in the near term is low. The Habitat Core Team is working with researchers from the US Geological Survey, Utah State University, and the Desert Research Institute to use remote sensing and aerial (drone) photography to get as much up-to-date condition and trend data on federally managed lands as possible and reduce the number of stream miles where on-the-ground data must be collected. This information will provide an objective benchmark for consideration during the subsequent five-year review. It will also provide important information to the GMU teams as they work with stakeholders and partners to prioritize where recovery efforts are most needed and most likely to succeed in the face of climate change. Lastly, the LCT Habitat Core Team is also working to develop a more rapid and useful long-term monitoring protocol in 2022 for LCT habitat that can be applied more often and at more locations than currently occurs (using specifically trained seasonal field crews). This data will detect whether management efforts, in combination with fish population genetic and demographic data, are leading to increased LCT population resiliency (*i.e.*, the desired outcome of specific LCT-centric management efforts).

Livestock Grazing Management

Livestock grazing on federally managed lands is a controversial topic in general, and even more so in dry states like NV. Some see grazing as an important part of the culture and economy of the state and note that public lands are vital to the continued successful livestock business operations (few ranches in Nevada could survive only on private lands). Others feel strongly that public land grazing in NV is inappropriate and should not be allowed. They do not believe it is possible for livestock operators to remain economically viable while also meeting ecological objectives in desert areas. Over the years, they have provided numerous examples of the detrimental effects of un-managed grazing to riparian and rangeland ecosystems; some of which were shared in depth with the SA team. Even those who support public land grazing

⁵ Temperature and water quality, as with all salmonids, can still be an issue and those two elements are not necessary for a stream to be properly functioning from a physical standpoint.

believe that excessive grazing in riparian systems is common on many allotments. They expressed increasing frustration with the fact there seems to be few or no consequences for failing to meet the terms and conditions required in grazing permits and/or Biological Opinions.

When it comes to livestock grazing, various systems and tools have been shown to help maintain and/or restore land health and riparian function. Although there are no simple 'right answers' that can be applied everywhere, most agree that annual hot season grazing (June, July and August) is the most deleterious way riparian areas can be grazed. Successful grazing systems typically consider one or more of the following elements: (1) the timing of grazing (season of year an area is grazed based on plant phenology rather than calendar dates); (2) the intensity of grazing (how much foliage is removed from desirable plants during the grazing period); (3) the duration and/or frequency of grazing (how long and/or how often grazing occurs and whether desirable plants have time to develop or recover foliage during the growing season); and (4) an appropriate balance between use and rest (deferment or rotation systems that allow for grazing to occur at different times/places each year). Additionally, successful grazing systems frequently rely on the use of infrastructure (i.e., pasture/riparian fences, off-stream water developments, hardened stream crossings, etc.) and/or riding/herding to effectively control cattle movement and distribution across the landscape. Last, successful grazing systems require a permittee and/or cow boss who are committed to the approach and want to see things improve.

Flexibility and Responsiveness

Unfortunately, many BLM and USFS grazing permits are outdated and typically rely on set use dates (seasons of use) and stocking rates (Animal unit Months or AUMs), which do not always lead to the best conditions on-the-ground. For instance, experience has shown that seasons are best determined based on weather rather than calendar dates. Similarly, simply reducing numbers is often not enough to engender change in conditions because even a few cows can keep a riparian area in poor condition. In addition to rigid and outdated permits, permittees also struggle with getting needed range improvements approved, installed, and maintained. Permittee efforts to proactively update grazing permits and management systems to achieve better resource conditions are frequently met with resistance from agency staff who are overwhelmed with their current workload and unable to process new requests.

Many SA participants felt that the time and resources required by the BLM and USFS to comply with National Environmental Policy Act (NEPA) are often barriers to timely implementation of most, if not all, on-the-ground actions and is further complicated by the reliance on different processes and approaches in different offices. When it comes to grazing term permits on BLM managed lands some noted there are often substantial procedural, substantive, and stylistic differences across Field and District offices. A commonly understood, standardized approach or methods and documented guidance for completing the needed work seems to be lacking. Furthermore, there is often a lack of, inadequate, or disorganized records for data collection, monitoring, and analysis. This presents a serious problem in moving forward on projects and building cases for failure to follow operating conditions. It was noted that even the dedicated

BLM state-wide Permit Renewal Team has struggled with these issues and has been unable to accelerate the completion of TPRs in the past five years. Some SA participants were cautiously optimistic that the recently developed NV BLM TPR Desk Guide, which provides guidance, tools, tips, and templates for completing each step of the process, and the current BLM NV Range Program Review would provide positive contributions to these issues.

The lack of management flexibility limits the ability of permittees and agency staff to be responsive (in real time) to changing conditions and can prevent willing permittees from making voluntary changes to allow for improvement in riparian and rangeland health. Some permittees spoke specifically about their personal experiences in this regard. On one hand, examples were shared of instances where permittees were forced into annual hot season grazing by their permits. These permittees made requests to BLM and USFS to change their permitted season of use in specific pastures/allotments to avoid ongoing riparian damage, but their requests were unsuccessful. Even in periods of prolonged drought, there are either limited tools or limited capacity (agency/permittee) to effectively understand and/or use existing tools appropriately to make needed changes in a timely manner. In other instances, permittees talked about how flexibility in their permits was critical to managing their grazing operations in a manner that benefits riparian and rangeland health.

Conversations regarding the need for increased flexibility, responsiveness, and accountability within grazing permits have been happening in earnest in NV and many other western states for at least the past six years. For instance, the rancher-lead collaborative known as R.O.G.E.R. (or the Results Oriented Grazing for Ecological Resilience group) has been working at the local, state, regional and national levels to advance this discussion, as well as experiment with on-the-ground actions, since 2016. A similar effort has been ongoing in Idaho (Idaho Rangeland Conservation Partnership -- <https://idahorc.org/>). In 2018, the BLM selected eleven demonstration projects in six states to participate in the National Outcome-Based Grazing Authorizations initiative with the goal of offering livestock operators greater flexibility to respond more readily to changing on-the-ground conditions and more efficiently achieve identified resource, habitat, and operational objectives. The USFS is currently exploring a similar initiative. (<https://www.blm.gov/programs/natural-resources/rangelands-and-grazing/livestock-grazing>).

Even though a lot of headway has been made on this issue over the past few years, concerns remain that these projects represent the exception rather than the norm. To date, agencies have not been able to institutionalize the principles and practices associated with outcome-based grazing at a scale that is large enough to make the needed impact. Some noted that the BLM is aware of and shares this concern. To address this, they are working to use what has been learned from the demonstration projects to provide incentives to normalize the integration of flexibility into permits or to develop separate mechanisms such as programmatic NEPA analyses and decision documents at the field, district, or state level. These programmatic documents could address things such as riparian improvement or changes in seasons of use to accommodate annual fluctuations or longer-term changes in ecological conditions. A

programmatic riparian NEPA document is in development; two others exist for (1) targeted and prescribed grazing and (2) drought.

Incentives and Assurances

Several SA participants noted that one way that riparian recovery and maintenance could be aided is through the addition of more fences to create riparian pastures where the timing of grazing is managed to support riparian health or to exclude livestock from streams. With the exclusion fencing, short and hardened water gaps could continue allowing livestock to access water or offsite water sources could be developed.⁶ Normally there is some level of financial sharing in fencing on federal lands. Often, the Agency provides the material, while the permittee constructs the fences and agrees to maintain the fences. A few SA participants stated that if BLM or USFS wants to keep cows out of the creek they need to construct and maintain riparian enclosure fences. While this would not be feasible or in the interest of the Federal Government on many riparian areas, on key LCT streams, it might be the only successful option. Given that many LCT streams have low and/or dwindling populations, the quickest way to upgrade protection would be through fencing. It was noted by several participants that some of the best improvements have occurred due to a well-planned and implemented fencing program.

Another management tool is the use of riding and/or herding to keep livestock away from streams. Since 2016, the NRST has been working with local partners to co-sponsor courses in NV for ranchers and agency staff to learn Low Stress Livestock Management techniques. This is a specific approach to riding, herding, and placement that works very well when done correctly. However, one of the keys to success is to have enough water in critical locations on the allotment to effectively handle the distribution of moderately sized cattle herds. Traditional riding methods, where cattle are just pushed out of streamside areas by riders and dogs have generally been less successful; however, some ranchers have used riparian riders very effectively.

When it comes to providing off-site water, one long-standing issue that needs be addressed is that fact that Nevada legislation in 2003 disallowed issuance of new livestock water rights to the Federal Government. The USFS has national and regional policy which prohibits expenditures or authorizing private development of stock water resources on National Forest without a water right (**Appendix 6**). In practice, this means that cows must drink directly from streams and/or springs rather than piping water to a trough if no improvement existed prior to implementation of the rules. The NV law and USFS policy together eliminate opportunities to move livestock out of riparian zones and improve conditions for LCT and other fish and wildlife species. The BLM interpretation is, or seems to be, less strict although no IM was viewed. The

⁶ It is important to note that water gaps are an issue that need to be addressed in several places in NV because they were not historically developed to effectively protect riparian condition and often include much longer sections of stream than simply providing a watering spot.

State of Nevada, USFS and BLM should work cooperatively to resolve the conflict around stock water rights that currently appear to limit in some cases the ability to take pressure off streams and benefit riparian conditions, LCT habitat and livestock.

Whether the riparian areas are protected by fencing, riding, or herding, it requires a substantial investment of money upfront and continuing over time. Some SA participants suggested there should be permanent positions funded in the agency to do these tasks and noted there were cooperative funds available to do this work (in addition to a percentage of the federal grazing fees). For instance, each Ranger District or Field Office with important LCT streams could have a permanent technician position with primary responsibilities for planning, construction, maintenance, and monitoring of livestock range improvements. Another idea is for agencies to hire riparian riders. Still another idea is for permittees, USFS and/or BLM, and other cooperators to work with NRCS to engage in 'whole ranch planning' efforts that consider how operators can best work across public and private lands to achieve ecological and ranch objectives. This could allow for more management flexibility to respond to variations in weather/climate over time and opportunities to leverage financial support across various partners for activities that support LCT recovery on public and private lands.

When it comes to private lands, some SA participants expressed concern about the introduction of LCT without assurances that private landowner will not be liable for "take" if things don't work. "Safe harbor" (SHA) agreements, which are voluntarily entered into by private landowners and USFWS, often provide such assurance. In exchange for actions that contribute to the recovery of listed species on non-federal lands, participating property owners receive formal assurances from the USFWS that if they fulfill the conditions of the SHA, the USFWS will not require any additional or different management activities by the participants without their consent. (<https://www.fws.gov/endangered/landowners/safe-harbor-agreements.html>)

Wild Horse and Burro Management

Several SA participants noted that, like un-managed cattle grazing, un-managed grazing by wild horse and burros (WHB) can also negatively impact riparian and rangeland health. They expressed serious concern about the condition of various Herd Management Areas, both in terms of animal and ecological condition, particularly given the impacts from successive years of drought. Most recognize that WHB management is an ongoing and seemingly intractable problem. As a result, there was not much discussion about the issues and potential solutions. According to some, past efforts to reduce herd numbers through gathers and subsequent adoption, fertility treatments and placement in long-term holding facilities have not been robust enough to get ahead of the curve. Some noted that the BLM NV State Office is working to address this and has recently (or soon to be) released a strategy for achieving the Appropriate Management Levels (AML) statewide in five years.

LCT Governance Structure

As noted in **Appendix 1** the LCT Governance Structure is composed of three entities (the MOG, CC and GMU teams) that provide leadership, direction, support, planning, oversight, interagency coordination, and stakeholder engagement for recovery actions. Most of the SA participants who are not directly involved with one or more of these entities were unfamiliar with the LCT Governance Structure. Even some of the participants who are directly involved, questioned the organization, purpose, roles, responsibilities, activities, and effectiveness of the various entities.

In theory, CC representatives would (1) ensure that important information is communicated throughout all levels of their representative organizations; and (2) help keep MOG, GMU teams and others informed on what is going on, where problems exist along with possible solutions, and assist with planning, budgeting and other critical needs to ensure their agencies are best contributing to the LCT recovery effort. However, some SA participants who are involved in the LCT Governance Structure noted that this link is not functioning as anticipated. A few of these individuals believe the creation of CC simply added another layer of bureaucracy that further drains already strained resources without any real/direct benefit to on-the-ground recovery of LCT. They suggested that the CC should either dissolve (since their primary task of developing the 2019 UGOs has been completed) and/or CC membership should be revamped to reflect the transition from planning to implementation. Some noted that the LCT CC is aware of the situation and concerns and is in the process of revamping the 2013 Charter to address these issues.

Some SA participants noted that that LCT recovery efforts could be greatly enhanced by the inclusion of several other agencies in the Governance Structure including the NRCS, the NV Department of Conservation and Natural Resources (DCNR) – specifically the Conservation District program - and the NV Department of Agriculture (NDA). Given the importance of including private lands, connecting with local communities and governments, and leveraging funding opportunities across private and public lands to meeting LCT recovery objectives, the absence of NRCS, DCNR and NDA seemed like a huge oversight to several SA participants. Some went a step further and noted that the absence of these partners within the LCT Governance Structure gave the appearance that LCT recovery efforts were yet another ‘top-down agency initiative’ regardless of what is written in the UGOs about the importance of collaborative, community-based, and cross-boundary efforts.

Regarding the MOG, many SA participants noted that leaders must be clear and transparent in communicating their intent, both internally and externally, and that this intent must also translate into actions. As part of this, hard choices will have to be made by leaders not only in response to addressing on-the-ground situations; but also, in establishing work, staffing, and funding priorities that meet the critical needs of LCT. Many SA participants noted that the funding and capacity of USFS and BLM (and other agencies) is already stretched thin; thus, the work associated with LCT recovery can’t just be another workload that is ‘added to the pile’. One specific example that was frequently noted, among others, is the fact there is only one fish

biologist covering the entire Humboldt-Toiyabe National Forest. Similarly, range conservationists on some units may have 50 or more allotments to manage and can't get around to most of them for needed monitoring and management. Achieving the LCT objectives will require focused attention on management, monitoring and working with permittees annually.

Additionally, efforts to recover LCT range-wide will require consistent, clear, understandable, honest, and ongoing vertical and horizontal communication, coordination, and collaboration within and across all agencies and other partners. Some SA participants noted that in previous interactions (i.e., public roll-out of UGOs, conversations with permittees regarding BOs, etc.) USFWS, USFS and BLM leaders/staff have either failed to answer questions or were ambiguous and/or disingenuous in their responses. For instance, some agency representatives have said that having LCT on public lands will not require any changes to existing permits; yet the degree of scrutiny has increased for some USFS permittees with LCT on their allotments and some BLM permittees are currently in the process of getting new grazing TPRs and associated USFWS consultation completed. Agency representatives have also said that maintaining properly functioning riparian conditions is sufficient for LCT recovery. However, it is well known by some that water temperature and quality are lagging indicators, meaning they are often achieved many years (if at all) after the basic attributes and process for functional riparian areas are in place. In the past, some permittees have been in the position of having to prove their grazing management is not contributing to the loss of fish habitat, even though their riparian areas are functioning or trending upward.

Agencies and other partners also need to effectively coordinate and collaborate both range-wide and at the project level. Several SA participants noted historical concerns with coordination between NDOW, USFWS, USFS and BLM – as well as with stakeholders. For instance, it was noted that NDOW has seemingly operated in a vacuum over the years. A few examples were provided where NDOW decided to move forward with LCT projects on their own, with little or no coordination the land management agencies or other interested/affected stakeholders. NDOW's historical approach was described by some as working with the fewest number of people possible to get projects done 'under the radar.' This has created a significant amount of distrust between NDOW and their agency partners, as well as neighboring landowners. Additionally, during conversations, the SA team was also made aware that one of the BLM District Offices had allegedly issued a "gag" order relative to normal staff conversations between that office and NDOW and USFWS staff. In talking to others, it was made to sound like procedures were changed with the intent of increasing effectiveness of conversations. If the LCT UGOs are truly going to be implemented as designed, then a significant amount of energy will need to be invested in having truly *coordinated and collaborative* efforts among all parties designed to take advantage of the collective knowledge, experience, and resources available to meet the challenges. Solid working relationships fostered by agency leaders at all levels will be critical.

Coordination and Facilitation

During the SA it became apparent that there are a lot of moving parts now and increasingly so in the future regarding what is going on with LCT recovery and there doesn't seem to be a centralized source of information at the GMU, LMU or subunit level range wide. Given the importance and visibility of this effort going forward, a point person or coordinator with excellent communication skills and widespread respect should be identified to ensure accurate, consistent, and ongoing messages, leadership and relationship building as these processes proceed. One individual could be identified for each GMU team or could work across one or more teams. This person would have a good understanding of the recovery efforts both locally and range-wide, as well as good relationships with key parties. Given the diversity and scope of work to be accomplished, as well as the number of interested and affected agencies, partner organizations and stakeholders, it will be important for the person selected to bring credibility with all parties, knowledge of the local area and culture, and the ability to work with everyone. In addition to assisting with process facilitation, this person would work to establish and maintain relationships and provide timely information to the various involved and interested parties.

Although collaborative capacity has increased in NV, people noted that various efforts still struggle with finding skilled individuals with the time to provide facilitation, logistical, and project management support. The Nevada Collaborative Conservation Network (NVCCN) recognized the importance of trained facilitators early on and made efforts to train facilitators and develop an in-state roster. However, there remains a limited pool of skilled facilitators because people are already juggling full-time jobs, families, and other commitments. To effectively manage the collaborative processes that will need to occur to develop Conservation Action Plans for LCT Recovery in the various LMUs and subunits, it will be important to secure funding to hire skilled facilitators.

Single Focus Collaboration

Many of the SA participants expressed concern over the creation of new collaborative efforts that are focused on individual management concerns. There are already a lot of interagency and stakeholder collaborative efforts in existence and many of the same people participate in most, if not all, of these efforts. Some of these groups are focused on individual species like Greater Sage Grouse (GRSG); while others are focused on individual management concerns like wildfire, invasive species, or the management of a particular grazing allotment/ranch. Furthermore, the various efforts are often not well coordinated.

As collaborative capacity has increased in NV, so has collaboration fatigue. Additionally, there is a concern that the focus on single species or issues has led to 'random acts of conservation' rather than a strategic approach to conservation across the landscape. While a few believe

'random acts of conservation' are okay and it is important to take advantage of individual project opportunities as they present themselves; many SA participants feel strongly that NV must get more strategic in its approach to accessing and maintaining social, financial, and ecological capital across the state. To address this, SA participants suggested that efforts be made to tie to existing collaboratives as often as possible and to focus, when possible, on forming more 'umbrella' collaboratives that focus on a range of issues at the appropriate scale. The Idaho Forest Restoration Partnership was provided as an example of an effort that is successfully implementing this type of an approach (<http://idahoforestpartners.org/>).

In practice, this could start with a mapping exercise where various individual priority areas are identified and then those individual GIS layers are combined to identify focus areas across the landscape. SA Participants noted the following examples of existing efforts that support moving in this direction:

- Recent planning efforts undertaken by the Shared Stewardship effort in NV is a model/approach worth exploring further.
- Similar discussions have been occurring within the Nevada Collaborative Conservation Network (NVCCN) and USFWS, NDOW, BLM and USFS have initiated processes to develop the necessary GIS layers.
- The Governor's Sagebrush Ecosystem Program is considering a similar model as it embarks on updating/editing their Strategic Action Plan.
- The recently signed Governor's Executive Order 2021-18, which establishes the NV Habitat Conservation Framework to provide for habitat conservation, restoration rehabilitation, and protection in a coordinated and inclusive manner across landownerships and in partnership with various agencies and stakeholders.

Once the mapping exercise is complete, at a minimum, the information could be used to inform the development of individual projects; at a maximum, collaborative efforts could then be developed or re-aligned to consider a host of issues in particular 'focal areas' if they chose. This would help reduce the number of separate collaborative efforts and strategically prioritize where and how individual projects could be leveraged with others to get the biggest conservation gain. This would not only lessen competition for scarce resources (i.e., money, people, time, etc.); but would also likely increase the attractiveness of funding project work because it has multiple benefits, which would broaden access to potential partners and funding sources.

One example of successfully leveraging partners and funding to achieve multiple benefits in a specific geographic area was in the Nevada, Idaho, and Oregon portions of the Owyhee Basin. This collaborative effort (17+ partner organizations) was able to secure substantial funding from the Natural Resources Conservation Service's (NRCS) Regional Conservation Partnership Program (RCPP) to increase drought resilience to benefit agricultural operations, rural communities, and fish/wildlife. "Project partners will work together to develop on-the-ground projects that restore stream and riparian function, protect and enhance important cold-water springs and groundwater exchange, and enhance wet meadow habitats, all of which will keep water in streams longer for livestock, wildlife and fish including the unique desert-type redband

trout that are native to this rugged landscape. These projects also will benefit other sensitive species like sage grouse Columbia spotted frogs that depend on health streams and wetlands.” (<https://www.tu.org/press-releases/trout-streams-to-benefit-from-rcpp-grants/>)

In addition to RCPP funding, some folks are cautiously optimistic that the Recovering America’s Wildlife Act (S 2372 and HR 2773) may pass this Congressional Session. Both versions would authorize \$1.4 billion annually to State Fish and Wildlife agencies and Tribal governments to manage fish and wildlife resources, which could greatly improve opportunities for increasing capacity for management and habitat improvements within NV. It was noted that having some of the pre-work done to identify ‘focal areas’ with overlapping priorities would be helpful to taking full advantage of funding opportunities (such as this one) if/when they arise.

RECOMMENDATIONS

South Fork Humboldt Subunit

- It is important to clarify the confusion around whether/how HU 1 and HU 2 relate to HU 3 objectives both in the SFH subunit and range wide. Specifically, does HU 1 (removal of non-native threats) and HU 2 (ecologically functioning habitats) apply to all LCT occupied systems or only to those isolated LCT populations that have important genetic characteristics as identified in the forthcoming LCT genetics management plan?
- The Humboldt GMU team, which includes representatives from NDOW, USFS, BLM, USFWS, Trout Unlimited, NV Gold Mines and others, is the logical entity to convene a collaborative sub-group to develop a SFH Conservation Action Plan for LCT recovery that meets HU objectives 1, 2, 3, 10 and 11. A similar process should be undertaken for other LMUs and subunits. As LCT recovery efforts move forward, GMU teams will play a key role in bringing together field and technical staff and managers (line officers), Tribes, researchers and other stakeholders. It will be critical to have the most affected stakeholders intimately involved from the inception of planning (i.e., the selection of streams to meet recovery goals) through implementation, effectiveness monitoring and the communication of outcomes.
 - Additional stakeholders to include in Humboldt GMU team discussion include Jiggs CD, NCA, Tribes, neighboring landowners and permittees, anglers, recreationists, and others.
 - The team should secure facilitation and coordination assistance (see below).
 - As part of the pilot effort, the NRST has agreed to assist with initial facilitation and coordination of a collaborative process to develop a SFH Conservation Action Plan. However, additional capacity will be needed in the SFH subunit, as well as other LMUs and subunits over time.

- The team should work with affected stakeholders to:
 - Establish a common information base,
 - Identify criteria for identifying which projects to move forward to meet recovery objectives, and
 - Keep the LCT CC, interested parties, the public, and others appropriately engaged throughout the process-recognizing that different individuals and groups will want to participate in different ways (i.e., inform, involve, consult, collaborate, and empower/co-manage) throughout the process.

- The ‘Gund Ranch Project’ seems to be the most logical choice for implementing a project to meet HU 10. Project analysis and implementation (if appropriate) should go forward as a cooperative effort with the four principal partners (USFS, USFWS, NDOW and the Gund Ranch) and in coordination with the South Fork Band of the Te-Moak Tribe. The following elements will be important moving forward:
 - Coordination with the Gund Ranch on timing and efforts to reduce the number of work projects, which could result in cattle displacement and associated difficulty in following/meeting private and public-land grazing requirements.
 - Upfront discussion with South Fork Band of Te-Moak Tribal Council to discuss project and secure written authorization for access. Also provide ongoing updates to Tribe for the life of project.
 - Coordination between NDOW (project implementors) and USFS (project land managers) to ensure all necessary NEPA and other permitting requirements are met.
 - Regular communication with key stakeholders (i.e., neighboring landowners and permittees, the Jiggs Conservation District (CD), the NV Cattlemen’s Association (NCA) and others) through 1:1 conversation.
 - Provide regular project updates to Humboldt GMU team as well as to the public through the USFWS website or other avenues.

- The Smith Creek complex should be collaboratively discussed as a potential option for establishing a second interconnected metapopulation to capitalize on the climate resiliency of the SFH area and make up for limited opportunities in other areas.

- The LCT CC and Humboldt GMU team should review the SFH list of potential recovery streams in Appendix 4 to identify systems that are *ecologically* potential options for meeting HU 11 (and possibly HU 3 as well) but are not currently listed and remove options that are no longer viable. A standardized set of criteria should be developed to inform these determinations and this information should be stored in a corporate database. Similar efforts should be undertaken for various LMUs and subunits range wide. This would help identify stakeholders and allow for more robust conversations during the SA process and in follow-up collaborative efforts. Decisions regarding where to focus recovery efforts, based on this initial list of options, will need to be made collaboratively and include consideration of social, political, and economic factors as

well as ecological.

- Ensure existing grazing management plans and associated BOs are followed, monitored, and enforced on both BLM and USFS managed lands.
 - On LCT streams with a repeated history of failure to meet permit and BO requirements, managers should take necessary administrative actions to ensure resource protection.
 - Continue with BLM efforts to update grazing management plans and complete required consultation with USFWS.
 - BLM and USFWS should jointly explain the TPR and consultation process to all involved permittees, including how they can best engage in these processes.
 - USFWS should generate simple flow chart that explains the decision process and consequence to landowners/permittees from species listing to on the ground action on public and private lands.

Range-Wide Recommendations

LCT Recovery Planning & Documentation

- Recognizing that it will take many years to fully recovery LCT, the MOG, CC and GMU teams should develop a plan that documents how recovery efforts will proceed and how evidence will be gathered and shared in a transparent manner to demonstrate that LCT recovery is occurring on a unit-by-unit and state-wide basis in advance of subsequent five-year reviews. This should include information such as:
 - In what order will LCT recovery in subsequent GMUs, LMUs and subunits be addressed and why?
 - What criteria will be used to determine where and how to invest time, money, and expertise in the various GMUs, LMUs and subunits?
 - How will progress toward recovery be assessed in the next five-year review (due 2027)?
 - What are the expectations for accomplishment between now and then that will demonstrate acceptable forward movement on planned progress?
 - will both on-the-ground actions and steps toward planned action be assessed?
 - Is it possible to de-list LCT within individual GMUs rather than range-wide (i.e., genetically distinct populations)? If so, is it better to focus time, energy, and resources on one GMU at a time rather than having multiple efforts that are spread too thin to be effective?

Agency Capacity

- The BLM and USFS should consider options to keep employees in place, such as:
 - Developing mentoring and support networks at the Field, District and State offices to assist with on-the-job training/transition, build comradery and provide a fun/positive professional outlet
 - Aligning work priorities with staffing/funding levels to avoid burnout
 - Hiring local high-school and/or college graduates as technicians to reduce professional staff workload, provide longer tenure/program continuity and get important projects completed.
 - Minimizing the reliance on ‘actings’ and decreasing the time managerial positions remain unfilled
 - Reframing associate or deputy positions as opportunities to bring continuity of operations and relationships instead of as stepping-stones

Non-Native Trout

- NDOW and the LCT CC should discuss, codify, and communicate their stocking policy to: (1) address concerns regarding the introduction of sterile non-native trout into LCT occupied streams in the Western GMU, (2) confirm that sterile non-natives are not stocked in LCT occupied streams within the Northwest and Humboldt GMUs, and (3) confirm that only sterile trout are stocked in streams where LCT recovery may be possible in the future. They should also consider a renewed commitment to providing high quality sport angling opportunities in areas that do not conflict with LCT recovery (incentive).

Riparian Condition and Management

- USFS and BLM management plans for livestock grazing and wild horse and burros (particularly those on LCT occupied streams) should be followed, monitored, and/or enforced to achieve riparian standards (i.e., functional systems or upward trend).
- The LCT CC and recovery partners should continue to stress the importance of healthy riparian areas for LCT as well as a host of other values (i.e., water storage, forage production, fish and wildlife habitat, recreation, etc.). Seek to broaden the audiences by using a variety of outreach and information sharing tools and techniques tailored to different groups and involving people who have experienced the benefits of successful management.
- The LCT CC and MOG should continue to support the work of the Habitat Core Team to increase the amount and consistency of information needed to assess and analyze stream systems for near-term needs such as collaboratively prioritizing projects, as well as for long term monitoring.

Livestock Grazing Management

- Ensure existing grazing management plans and associated BOs are followed, monitored, and enforced on both BLM and USFS managed lands. On LCT streams with a repeated history of failure to meet permit and BO requirements, managers should take necessary administrative actions to ensure resource protection.
- Ensure that the TPR Desk Guide recently completed for NV BLM is consistently applied across all units both to accelerate completion of TPR's and provide consistent information on the process to permittees, partners, and the public.
- USFS and BLM should continue to institutionalize and scale-up the principles and practices associated with flexible, outcome-based grazing either through permits or other mechanisms such as programmatic NEPA.
- USFS and BLM should find ways to modify or eliminate annual hot season grazing in riparian areas using programmatic NEPA and/or dedicated funding and staff to provide fencing, water developments, and riding/herding.
- USFS, BLM and the State of Nevada should work cooperative to resolve the conflict around stock water rights, which is limiting opportunities to develop off-site water (particularly on USFS managed lands)

Wild Horse and Burro Management

- USFS and BLM should continue working to find viable options for maintaining WHB populations at AML, including implementation of BLM's five-year strategy.

LCT Governance Structure

- The CC should continue to give focused attention to the existing organization and potential changes that might allow them to be more effective and efficient moving from planning (i.e., development of UGOs) to implementation activities. What has worked well that should be continued? What new activities should occur? What is no longer necessary and should be discontinued?
 - Attention should be given to ways to improve coordination and communication within and across the various governance entities and associated agencies.
 - Consideration should be given to including NRCS, DCNR and NDA within the governance structure, particularly given the move toward implementation.
 - Emphasis should be placed on providing consistent, clear, and honest messages regarding the impacts of LCT recovery actions (or non-action) to stakeholders and users.

- The MOG and CC, particularly USFS, BLM, NDOW and USFWS representatives, should provide clear agency/leader intent and commitment to LCT recovery actions; establish work, staffing, and funding priorities to ensure their agencies are meeting critical LCT needs; and engage in consistent horizontal and vertical communication, coordination, and collaboration within and across all agencies and other partners.
 - Consider creating a CC/MOG work group or subcommittee including at least USFS, BLM, NDOW and USFWS representatives to develop a work/action plan in response to SA findings and recommendations. It will be important to involve USFS District Rangers and BLM District/Field Managers in these discussions as well.
 - Attention should also be focused on repairing and rebuilding interagency relationships between the USFS, BLM, USFWS and NDOW at both state-wide and local levels as needed.

Coordination and Facilitation

- Given the importance and visibility of this effort going forward, a coordinator (or one for each GMU team) should be identified. This person(s) should have excellent communication skills and widespread respect to ensure accurate, consistent, and ongoing messages, leadership and relationship building as LCT recovery moves forward both locally and range wide.
- To effectively manage the collaborative processes that will need to occur to develop Conservation Action Plans for LCT Recovery in the various LMUs and subunits, it will be important to secure contracting funding to hire skilled facilitation, logistical (meeting planning, note taking, etc.), and project management support.

Single Focus Collaboration

- Efforts should be made to work with existing collaborative, community-based efforts to solicit initial input, ideas, and opportunities for working together on LCT planning and projects in their local areas. Work to develop 'umbrella' collaboratives that focus on a range of issues at the appropriate scale, including LCT recovery.

APPENDIX 1

LCT Management Oversight Group and Coordinating Committee

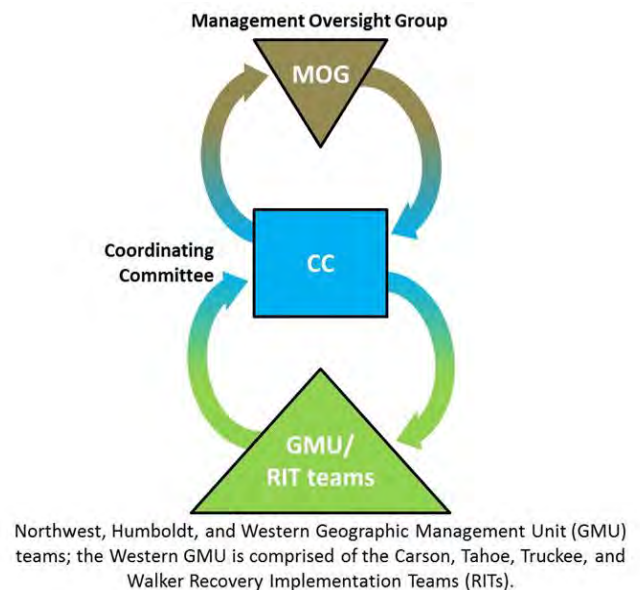
In 1995, the U.S. Fish and Wildlife Service (USFWS) published the Recovery Plan for the Lahontan Cutthroat Trout (LCT). In 1998, a LCT Management Oversight Group (MOG) was created since several partners actively work to conserve LCT including tribes, state and federal agencies, and non-governmental organizations. Shortly thereafter, a charter was developed for the MOG and later revised. The October 18, 2013 revised charter remains the current Charter. However, the governance structure was modified in 2017 to create a Coordinating Committee (CC).

The mission of the MOG as stated in the charter is “to attain interagency and tribal cooperation for achieving recovery of LCT throughout its range and the removal of LCT from the ESA List of Threatened and Endangered Wildlife and Plants.” The LCT MOG works in an advisory capacity to provide direction and guidance pertaining to whether recovery, management, and agency undertakings in or near LCT habitat are consistent with and necessary to achieve recovery. The LCT MOG also recommends measures to resolve management issues and concerns related to the implementation of LCT recovery planning efforts. The MOG representatives strive to improve intra-agency coordination as they are uniquely situated in a position to do so most effectively.

The MOG is represented by a designee at the executive or director-level from the following charter signatory organizations: Bureau of Land Management, USFWS, US Forest Service, US Army Corps of Engineers, US Geological Survey, US Bureau of Reclamation, California Department of Fish and Wildlife, Nevada Department of Wildlife, Oregon Department of Fish and Wildlife, Pyramid Lake Paiute Tribe, Summit Lake Paiute Tribe, Walker River Paiute Tribe, Washoe Tribe of Nevada and California, and the Tahoe Regional Planning Agency.

The CC includes manager-level representatives from each of the charter organizations. The CC is responsible for liaising between the MOG and the Geographic Management Units/Recovery Implementation (GMU/RIT) teams to ensure consistency in recovery and conservation goals and objectives range wide. Since the 1995 Recovery Plan was out of date, the CC worked collaboratively with the GMU/RIT teams to develop an up-to-date guidance document that clearly identifies goals and objectives that lead to recovery of LCT (UGOs). In 2019, the UGOs were endorsed by the LCT MOG. Since the CC meets more frequently than the MOG, it is poised to improve inter-agency coordination.

The GMU/RIT Teams contain field and technical staff from the MOG Charter organizations and additional researchers knowledgeable in the conservation of LCT. The GMU/RIT teams’ purpose is to plan and implement on-the-ground recovery actions. In addition, these team members regularly engage directly with stakeholders.



APPENDIX 2
Participants and Invitees

Name	Organization	Invited by CC	Invited by Other	Participated
Barnes, Jason	Trout Unlimited	Yes	n/a	Yes
Barnes, Jeff	2U Ranch	Yes	n/a	Yes
Barnes, Havey	Rancher	Yes	n/a	No
Barnes, Tom	Rancher/NCA President/NV Wildlife Commissioner	Yes	n/a	Yes
Bates, Tom	BLM Range Specialist	Yes	n/a	Yes
Braatz, Jesse	Humboldt Ranch	n/a	Yes	Yes
Brown, Meghan	Nevada Department of Agriculture	Yes	n/a	Yes
Burton, Nycole	BLM Fish Biologist	n/a	Yes	Yes
Buzzetti, Mitch & Rachel	Elko Guide/County Wildlife Advisory Board	Yes	n/a	No
Byrne, Cody	NDOW	n/a	Yes	Yes
Cooney, Jim	County Advisory Board - Wildlife	Yes	n/a	No
Crookshanks, Chris	NDOW Native Trout Staff Biologist	Yes	n/a	No
Cumming, Joe	Rancher/Jiggs CD	Yes	n/a	Yes
Darden, Shannon	Te-Moak Tribe - South Fork/Water Tech	Yes	n/a	No
Davies, Kyle	BLM Range Specialist	Yes	n/a	No
Dixon, Gerald	BLM District Manager	Yes	n/a	Yes
Dyer, Kathryn	BLM State Range Specialist	n/a	Yes	Yes
Elliott, John	NDOW (retired)	Yes	n/a	Yes
Elmore, Wayne	BLM, NRST (retired)	n/a	Yes	Yes
Evans, Carol	BLM, Fish Biologist(retired)	n/a	Yes	Yes
Foree, Steve	NDOW (retired)	n/a	Yes	Yes
Garcia, Duane	Te-Moak Tribe - South Fork (Chairman)	Yes	n/a	No

Gibson, Bill	Guide/Landowner	Yes	n/a	Yes
Gibson, Bob	BLM, Hydrologist	n/a	Yes	Yes
Goicoechea, JJ	Goicoechea Ranches/ NCA Executive Committee/SEC Chair	Yes	n/a	Yes
Gonzales, Mark	BLM NRST	n/a	Yes	Yes
Griggs, John	Maggie Creek Ranch/Incoming NCA President/ROGER Steering Committee	Yes	n/a	Yes
Harrington, Pam	Trout Unlimited	Yes	n/a	Yes
Jasmine, Chris	Nevada Gold Mines	Yes	n/a	Yes
Jasmine, Jamie	Natural Resources Conservation Service (NRCS)	Yes	n/a	No
Klitz, Karen	Wildlands Defense	Yes	n/a	Yes
Kutosky, William	USFWS Partners Program	Yes	n/a	Yes
Lamp, Rory	Nevada Land Trust	n/a	Yes	Yes
Lee, Connie	NV Assn of Conservation Districts Exec Dir	Yes	n/a	Yes
Leonard, Steve	BLM NRST (retired)	n/a	Yes	Yes
Little, David	Lattin Livestock	Yes	n/a	No
Makinson, Matt	USFS	n/a	Yes	Yes
Mcadoo, Caleb	NDOW	n/a	Yes	Yes
McCuin, Gary	NV Assn of Conservation Districts President	Yes	n/a	Yes
McGowan, Kelly	NDA SETT	Yes	n/a	No
McLachlan, Scott	2U Ranch	Yes	n/a	No
Meiman, Paul	Univ of NV Reno Extension	Yes	n/a	Yes
Mellison, Chad	USFWS Fish Biologist	Yes	n/a	Yes
Miller, Gerald	DCNR & NE NV Stewardship Group	Yes	n/a	Yes
Miller, Travis	Gund Ranch	Yes	n/a	Yes
Misiti, Robert	South Fork State Recreation Area	Yes	n/a	No
Mitchell, Melanie	BLM Field Manager	Yes	n/a	Yes
Moore, Curtis	Elko County Environmental Manager	Yes	n/a	Yes
Mose-Temoke, Cheryl	Te-Moak Tribe - South Fork	Yes	n/a	No
Munn, Liz	The Nature Conservancy	Yes	n/a	Yes
Nicholes, Joshua	USFS District Ranger	Yes	n/a	Yes

O'Donnell, Blake	Jiggs CD Chair	n/a	Yes	Yes
Paris, Martin	NCA Exec Dir	n/a	Yes	Yes
Parris, Pete	Rancher	Yes	n/a	No
Peterson, Jeff	Acting Fisheries Supervisor	Yes	n/a	No
Peterson, Melanie	BLM Field Manager	Yes	n/a	Yes
Reban, Alicia	Nevada Land Trust	Yes	n/a	No
Reynolds, Tanya	Te-Moak Tribe - South Fork (council member)	Yes	n/a	No
Rogers, James	ROGER Steering Committee	Yes	n/a	Yes
Rose, Marcus	BLM Range Specialist	Yes	n/a	No
Ruprecht, Paul	Western Watersheds Project	Yes	n/a	No
Rzyska-Filipek, Nicholas	BLM Fish Biologist	Yes	n/a	Yes
Smales, Dallas	South Fork Band of Te-Moak Tribe - (Environmental Director)	Yes	n/a	Yes
Smith, Agee	Cottonwood Ranch, CD, NVACD, ROGER Steering Committee	Yes	n/a	Yes
Starr, Mike	NDOW	Yes	n/a	Yes
Steninger, Rex	Elko County Commissioner	Yes	n/a	No
Stout, Madi	NRCS/NDOW Private Lands	Yes	n/a	Yes
Swanson, Sherm	NV Creeks & Communities Team Lead	Yes	n/a	Yes
Van Horne, Rachel	USFS Fish Biologist	Yes	n/a	Yes
Vogt, Sean	USFWS LCT Coordinator	Yes	n/a	Yes

APPENDIX 3

Invitation Letter for SFH LCT Situation Assessment

June 21, 2021

Dear Interested Party:

The Lahontan cutthroat trout (LCT) Coordinating Committee (CC; see attachment) would like to invite you to share your thoughts surrounding recovery actions for LCT. Recovery actions include measures to improve riparian habitat conditions and address the threat of non-native trout. Your thoughts, perspectives, concerns, and identification of potential opportunities will help us work together as we move toward achieving the Updated Goals and Objectives (UGOs) for LCT.

The UGOs were completed in early 2019 to guide LCT recovery across the historic range and provide quantifiable criteria for delisting. The UGOs do not prescribe where or how to complete the management actions. Thus, they provide flexibility and encourage collaboration with stakeholders so that we can identify where and how to meet conservation objectives together. By working with people, like yourselves, who live and work in these areas, we can collectively identify the best places to focus recovery actions for LCT.

Since it is impossible to address the needs of LCT range wide simultaneously, we want to conduct a pilot stakeholder engagement effort within the South Fork Humboldt River sub-basin. We chose this area because:

1. There are already several existing collaborative efforts in the area, such as the Results Oriented Grazing for Ecological Resilience (ROGER); which is a rancher-lead collaborative group that aims to restore and enhance rangelands;
2. Several private landowners in this area have expressed recent interest in working collaboratively on LCT conservation;
3. Attention from outside interest groups has put habitat conditions in the spotlight; and
4. It is a manageable size with some of the best habitat within the historical range of LCT.

This will be a multi-year effort that began with the CC hosting virtual public meetings in February 2021 to share information with all interested stakeholders about the LCT UGOs. More information, including the UGOs, can be found on the USFWS website:
<https://www.fws.gov/reno/content/lahontan-cutthroat-trout>.

The next step is to conduct a situation assessment. This process was chosen to ensure that all stakeholder groups, including local communities, ranchers, anglers, and recreationalists, are involved in and benefit from LCT recovery actions. Our hope is to create a collaborative group

and establish a decision-making process that will develop a South Fork Humboldt River sub-basin Collaborative Conservation Action Plan. The purpose of the situation assessment is to meet with all interested and affected parties to learn more about the various perspectives, concerns and opportunities and help shape next steps.

We asked Laura Van Riper and Mike Lunn from the National Riparian Service Team (NRST) to conduct a situation assessment with people in the South Fork Humboldt River area and those that would engage or be interested in the collaborative. Pat Johnston, with the Bureau of Land Management's (BLM) Collaborative Action and Dispute Resolution (CADR) program, will also assist with this effort. The NRST is a BLM group that works throughout the West, across ownerships and jurisdictions, to facilitate cooperative riparian restoration and management. They work to encourage relationships and coordination, build trust, and create a shared vision for the land.

More information about the NRST can be found at www.blm.gov/or/programs/nrst, or you can contact Laura by phone (541) 905-2980 or email lvanripe@blm.gov.

Laura and Mike will be in Elko, Nevada Monday, July 19, 2021 through Friday, July 23, 2021. We reserved a facility in Elko; however, if you would prefer to meet at a different site (i.e., residence or restaurant), accommodation can be made. Each individual will be given a one-hour time slot. Group discussions can also be accommodated, with 1.5-hour time slots for groups of 1 to 3 people, and 2 hours for groups of 3 or more. The comments from all participants of these meetings will be summarized into a report that will be sent to all participants and will include recommendations for next steps.

Please contact Mike Lunn, at your earliest convenience, if you are interested in participating in these discussions or if you would like additional information. Mike can be reached at (541) 480-7970, mlunn1128@hotmail.com.

Thank you for your willingness to engage in this important natural resource opportunity

APPENDIX 4
Potential Recovery Streams in South Fork Humboldt Subunit

2019 Management Unit	Required Maintenance Populations in 1995	Occupied in 2019?	Updated 2019 Objective	Population Description
Humboldt/South Fork	Mitchell Creek	No	Potentially HU 3	Potential Isolated Fluvial
Humboldt/South Fork	North Fork Mitchell Creek	No	Potentially HU 3	Potential Isolated Fluvial
Humboldt/South Fork	Green Mountain Creek	Yes, but it was 1 population	HU11	Potential Fluvial Recovery
	North Fork Green Mountain Creek			
Humboldt/South Fork	Mahogany Creek	Yes, but it was 1 population	HU 10 or 11	Potential Fluvial Recovery/Meta-Population
	Segunda Creek			
	Long Canyon Creek			
	North Furlong Creek			
Humboldt/South Fork	Rattlesnake Creek	No	Potentially HU 3	Potential Isolated Fluvial
Humboldt/South Fork	McCutcheon Creek	Unlikely	Potentially HU 3	Potential Isolated Fluvial
Humboldt/South Fork	Smith Creek	Yes, but it was 1 population	HU 10 or 11	Potential Fluvial Recovery/Meta-Population
	Middle Fork Smith Creek			

	North Fork Smith Creek			
	Gennette Creek			
Humboldt/South Fork	Dixie Creek	Yes	HU 3 or 11	Potential Fluvial Recovery
Humboldt/South Fork	Lee Creek	Yes	HU 3	Isolated Fluvial
Humboldt/South Fork	Pearl Creek	Yes	HU 11	Fluvial Recovery
Humboldt/South Fork	Welch Creek	Yes	HU 3	Isolated Fluvial
Humboldt/South Fork	Carville Creek	No	Potentially HU 3	Potential Isolated Fluvial
Humboldt/South Fork	Cottonwood Creek	No	Potentially HU 3	Potential Isolated Fluvial

APPENDIX 5

South Fork Humboldt Basin LCT Project Status Reports



GREEN MOUNTAIN FIELD TRIP REPORT

DATE: July 10, 11, 16, 2018 and August 28, 2018

TITLE: Green Mountain Creek Fish Population Survey and Brook Trout Removal

FIELD PARTY: Starr, Allen, Agrella, Irvin

PREPARED BY: Michael Starr

OBJECTIVES: To assess the status of the Lahontan Cutthroat Trout (LCT) population in Green Mountain Creek, South Fork Humboldt River Drainage System. Remove any Brook Trout caught from Green Mountain Creek.

BACKGROUND: Green Mountain Creek is located on the west side of the Ruby Mountains in Elko County (T28N, R57E) (HUC 16040103). This stream originates at approximately 7,800 ft and is approximately 11 mi long. The entire length of this stream flows through USFS managed land. Access exists via low standard roads that can be found along the majority of the stream.

Green Mountain Creek has been stocked with rainbow trout, cutthroat trout, and brook trout between 1940 and 1953. The first recorded survey conducted in 1954 found no fish at two survey sites, but it was noted that LCT were known to exist. A temporary barrier was installed in 2002 below the confluence of the north and south forks and a chemical eradication was conducted in 2003 to remove non-native trout. The treatment was thought to be successful, but brook trout were found above the barrier during treatment evaluation in 2004. Several mechanical brook trout removal projects occurred from 2006 to 2012 and it was thought that invading brook trout were under control.

During the summers of 2011 and 2012, 54 LCT were collected from Pearl Creek and translocated into Green Mountain Creek. Unfortunately, no fish were found during the follow up survey conducted in the summer of 2013.

PROCEDURES: Six stations on the north fork and eight stations on the south fork of Green Mountain Creek were sampled (see attached MAP 1). A 50-m single pass survey was conducted using a Smith-Root LR-20B electroshocker. All brook trout found were measured, checked for body condition, and removed.

Water temperature, air temperature, flow, and pictures (upstream/downstream) were collected at each site.

FINDINGS AND ANALYSIS: Green Mountain Creek was surveyed during mid-July, with water temperatures ranging from 53 to 70°F and discharge ranging from 0.04 to 0.34 cfs. The entire south fork and the majority of the north fork were essentially dry/intermittent. No Lahontan cutthroat trout were found at any survey sites. Brook trout were found only at GRN2 and the three fish showed an average density of 96.6 fish/mi. They averaged 7.1 in (18.1 cm) and ranged from 6.8 to 7.4 in (17.2 cm to 18.8 cm). All fish were considered to be in fair body condition. An inventory and length data for brook trout caught is attached. Two days were also spent mechanically removing brook trout from the stream with a backpack electroshocker. This effort resulted in removing an additional 54 brook trout that averaged 6.7 in (17.1cm) and ranged from 2.5 to 11.7 in (6.4 to 29.6 cm). MAP 2 shows the area that was electroshocked during the removal effort.

The riparian condition along the south fork of Green Mountain Creek was “healthy.” Nonetheless, there was little to no measurable flow at any of the survey sites. The riparian condition of the north fork of Green Mountain Creek was “healthy” at stations GRN6, GRN5, and GRN3. Other stations (GRN4, GRN2, and GRN1) were in poor condition, with heavy cattle damage leading to excessive bank shearing, hummocks, and high sedimentation. Riparian conditions were photographed at all survey stations.

RECOMMENDATIONS: Green Mountain Creek should be electroshocked in 2019 to continue with the removal of the brook trout. Fortunately, several beaver dams act as fish passage barriers and inhibit brook trout from migrating into the upper portions of the stream. Currently, there are less than two miles of available fish habitat due to the lack of water. Green Mountain Creek cannot support an LCT fishery if current weather trends continue.



BROWN CREEK FIELD TRIP REPORT

DATE of Work: August 19-22 and 27-29, 2019

FIELD PARTY: Starr, Elliott, Drake, Stoller, Petersen, Foree, and Keely

OBJECTIVE: To apply rotenone and eradicate non-native brook trout (*Salvelinus fontinalis*) from Brown Creek. This will allow Lahontan Cutthroat Trout (LCT, *Oncorhynchus clarkii henshawi*) to be reintroduced free of interspecific competition. In order to proceed with recovering LCT within the Upper Humboldt GMU, it is necessary to have robust self-sustaining LCT populations free from threats.

BACKGROUND: Brown Creek is located southeast of Elko, Elko County, Nevada (HUC 16040103). It originates on the west side of the Ruby Mountains on land administered by the US Forest Service (USFS) and travels downstream through lands administered by Bureau of Land Management (BLM). The 4.6-mile treatment section of Brown Creek was within T27-28N and R56-57E. Brook Trout was the only fish species inhabiting the stream.

Rotenone is highly toxic to salmonids and other species with gills making it valuable in removing non-native and hybrid trout species. Rotenone kills fish by blocking the cellular respiration and oxygen uptake, resulting in rapid death. It is effectively used in lotic and lentic environments. Although macroinvertebrates are also killed during application of rotenone, after the project, dispersal and recolonization occurs from populated areas not treated due to lack Brook Trout. Rotenone must be applied prior to brook trout spawning because it is not effective in killing fertilized fish eggs. Therefore, the ideal time to treat is during base flow conditions in late summer. Brown Creek typically does not flow beyond the BLM boundary during late summer and it is intermittent along the lower reaches.

PROCEDURE: Pre-treatment surveys were conducted on August 19-22, 2019. During this time, multiple trips were made to document flows, establish drip-bucket intervals, find fish distribution limits, locate springs and seeps, and document if federal/state listed, candidate, or sensitive wildlife species were presence. Based on data, drip stations were spaced approximately 0.5 miles apart (approximately 1.5-hour travel time). Stations were identified by GPS and marked to be easily found by attendants. Water flow measured at each site was used to calculate amount of liquid rotenone needed for each drip-bucket. All potential problem areas such as springs, seeps, and beaver ponds were identified by GPS so that they could be easily targeted by sand and spray crews. Detoxification with potassium permanganate was not needed as the stream went dry within the treatment area.

A population survey was conducted in 2016 and found a headcut barrier located at 619310.67E, 4457263.62N (UTM, NAD83). No fish inhabited the stream above the barrier. During the pretreatment survey, the stream above the barrier was dry. Additionally, no candidate or sensitive species were found

during pre-treatment surveys. Blue grouse, sage grouse, antelope, mule deer, red-tailed hawk, Great Basin rattlesnake, and western racer snake were documented. Caution signs were posted along Brown Creek to warn the public of rotenone use.

Brown Creek eradication was conducted on August 27-28, 2019 under the Nevada Department of Environmental Protection (NDEP) National Pollutant Discharge Elimination System permit (NV0024234) issued on February 21, 2019. Based on permit requirements, water quality was measured before, during and after the treatment (Photograph 1). Prior to the actual treatment, a safety meeting was conducted. CFT Legumine™ (EPA registered 75338-2) containing 5% rotenone was used at a concentration of 2.0 ppm for six hours on both August 27 and 28, 2019. Approximately 3.62 gallons of liquid emulsified CFT Legumine was used for drip buckets per day (7.24 gallons total/bucket). To satisfy conditions of the NDEP discharge permit, water quality samples were taken at UTM 614465E, 4458160N (Photo 1). Each drip-station attendant was asked to walk 0.25 mile upstream and downstream of their station noting and removing all fish killed.

Two sand/spray crews were responsible for covering the entire stream treatment area, applying either sand and/or a spray mixture to stagnant pools, springs, seeps, or intermittent areas that the drip station toxicant could not reach. The spray mixture consisted of 6.0 ounces of rotenone per gallon of water (5% mixture) and each backpack sprayer contained 4.0 gallons. The sand consisted of a mix of Rotenone Fish Toxicant Powder (7.4% rotenone, registration no. 655-691), gelatin, and sand. Spray crews were essential for ensuring a total kill by eliminating refugia. Crews used approximately 0.23 gallons of liquid emulsified CFT Legumine and 2.0 pounds of powdered rotenone each day.

FINDINGS AND ANALYSIS: Approximately 7.7 gallons of liquid rotenone and 4.0 pounds of powdered rotenone were used for the entire treatment. Attendants found 420 Brook Trout mortalities and no live fish were documented after 1200 hrs on the first day of treatment. The project appears to be successful.

There appeared to be no effect to the physical and chemical habitat based on pre- and post treatment monitoring of the treatment (Table 1). However, temperature increased substantially along with dissolved oxygen dropping during the afternoon of the treatment. As Photograph 1 shows, monitoring of water quality occurred in an area of no stream shading. Drastic changes likely resulted from hot afternoon air temperatures and not a result of the treatment.

Table 1.

	Pretreatment 8/27 1000 hrs	Treatment 8/27 1419 hrs	Posttreatment 8/29 0920 hrs
Temperature (°C)	16.0	27.6	16.6
DO (mg/L)	11.4	8.9	11.3
pH	8.5	8.6	8.6
TDS (mg/L)	342	266	333

RECOMMENDATIONS: In the summer of 2020, spot electroshocking will occur to evaluate the effectiveness of the treatment. Reintroduction of LCT into Brown Creek will only commence after a thorough evaluation to make certain no brook trout occur. LCT from Pearl Creek will most likely be the

donor and will follow the guidelines set in the Reintroduction of LCT section of the Lahontan Cutthroat Trout Species Management Plan for the Upper Humboldt River Drainage Basin. Reintroduction will most likely occur in the fall of 2020.

Photograph 1. Brown Creek Water Quality Sample Site.





PEARL CREEK FIELD TRIP REPORT

PURPOSE: To mechanically remove non-native trout in Pearl Creek (Hydrologic Unit Code 16040103).

DATE: September 17, 21 & 22, 2020

LOCATION: Pearl Creek, Elko County, NV

PERSONNEL: Starr, Vogt, Netcher

INTRODUCTION

Pearl Creek is located (T28N, R55E-57E) on the west side of the Ruby Mountains in Elko County. The portion of Pearl Creek that was sampled during this survey flows through approximately 2.5 miles of land administered by the U.S. Forest Service (Forest). Lahontan Cutthroat Trout (LCT) were first documented in Pearl Creek in the early 1950's. At the time, Brook Trout (BKT) and stocked Rainbow Trout also inhabited the creek. During the 1980 stream survey, BKT dominated the catch, while LCT occupied an estimated 0.25 mile of stream. In 1984, the BKT population was chemically eradicated, while a small area above a natural barrier that contained a small population of LCT was not treated. A genetically pure strain of LCT was transplanted from Gennette Creek into Pearl Creek in 1985. Subsequent stream surveys in 1986, 1988, 1991, 1996, and 2006 found the LCT population to be expanding, but also found BKT.

The most recent fish population survey (2019) found LCT at 11 of 13 stations and BKT at 2 of 13 stations. Relative abundance for LCT ranged between 32 ± 0 fish/mile at PRL1 to 846 ± 260 fish/mile (excluding YOY) at PRL8. The average total length of the captured LCT was 142 mm, with a range of 41 mm to 225 mm. BKT relative abundance was 32 ± 0 at station PRL6 and 64 ± 0 at station PRL8. The BKT averaged 171 mm in total length, with a range of 145 mm to 205 mm. No other fish species were found.

Numerous BKT removal projects have been initiated since 2006. These efforts have resulted in approximately 1,684 BKT being removed from Pearl Creek, and 8,317 LCT being contacted (Table 1). The most recent removal effort (2019) resulted in 7 BKT being removed from 1.5 miles of stream habitat during six days of electroshocking.

Table 1: Annual LCT and BKT captured from 2006 to 2019.

Year	LCT	BKT
2006	244	334
2007	160	347
2008	374	240
2009	587	241
2011	153	9
2012	580	76
2013	326	105
2014	576	62
2015	943	78
2016	1220	41
2017	1454	6
2018	1349	38
2019	351	7

METHODS

A thorough single pass electrofishing effort using a Smith Root LR-20B electrofisher was conducted. Any LCT sampled during this spot shocking effort were netted and released. 101 LCT were randomly measured (total length, mm). The start and end points for this survey can be found in Table 2 below.

Table 2: Universal Transverse Mercator coordinates for the start and end locations on Pearl Creek. North American Datum 1983.

	Easting	Northing	Zone
Start	618691	4460843	11T
End	620983	4459943	11T

RESULTS

This is the fourteenth year of mechanical removal with 1.6 stream miles being electrofished. Since 2006, a total of 1,684 BKT have been removed and this year marks the first in which BKT were not contacted. A total of 734 LCT were captured during the electrofishing efforts, with an average length of 105 mm and a size range of 46 mm to 198 mm. The total number of LCT captured since removals began in 2006 is 9,051. Figure 1 shows the LCT length frequency of measured individuals. Figure 2 shows the species composition

over the past 12 removal projects. Map 1 shows the area electrofished with the blue dots representing captured LCT.

Figure 1. 2020 LCT length frequency.

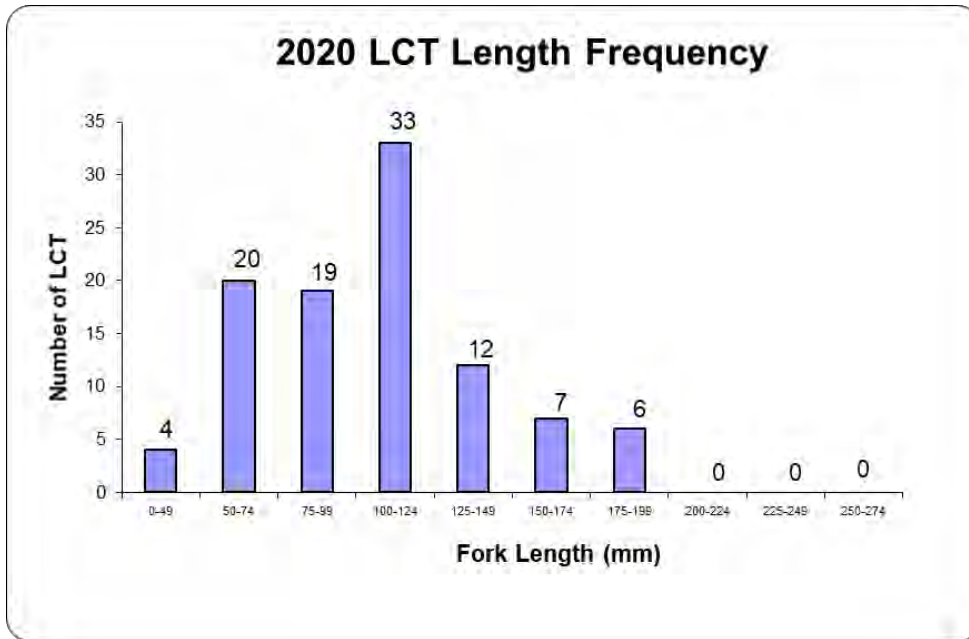
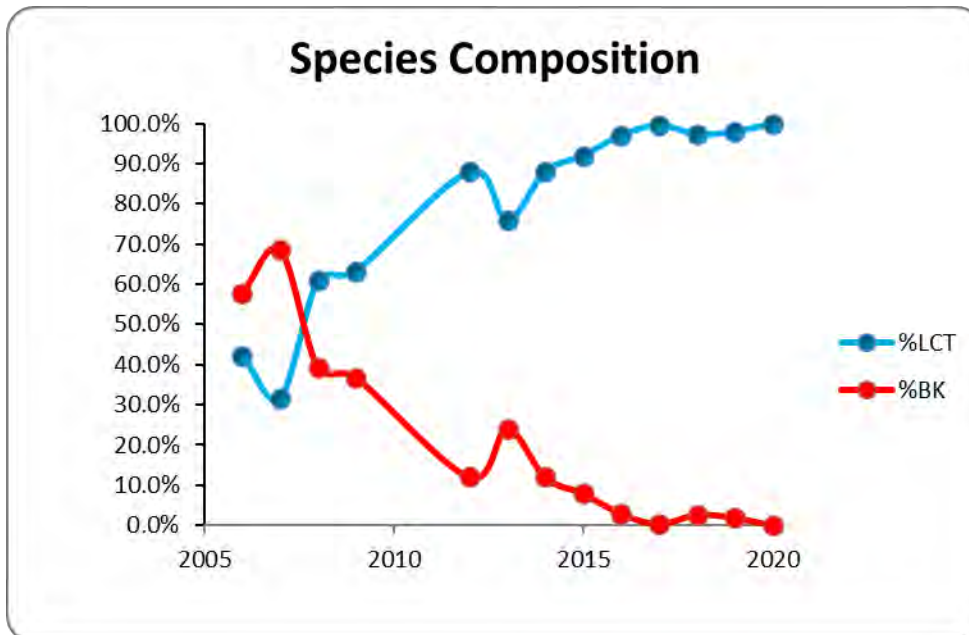
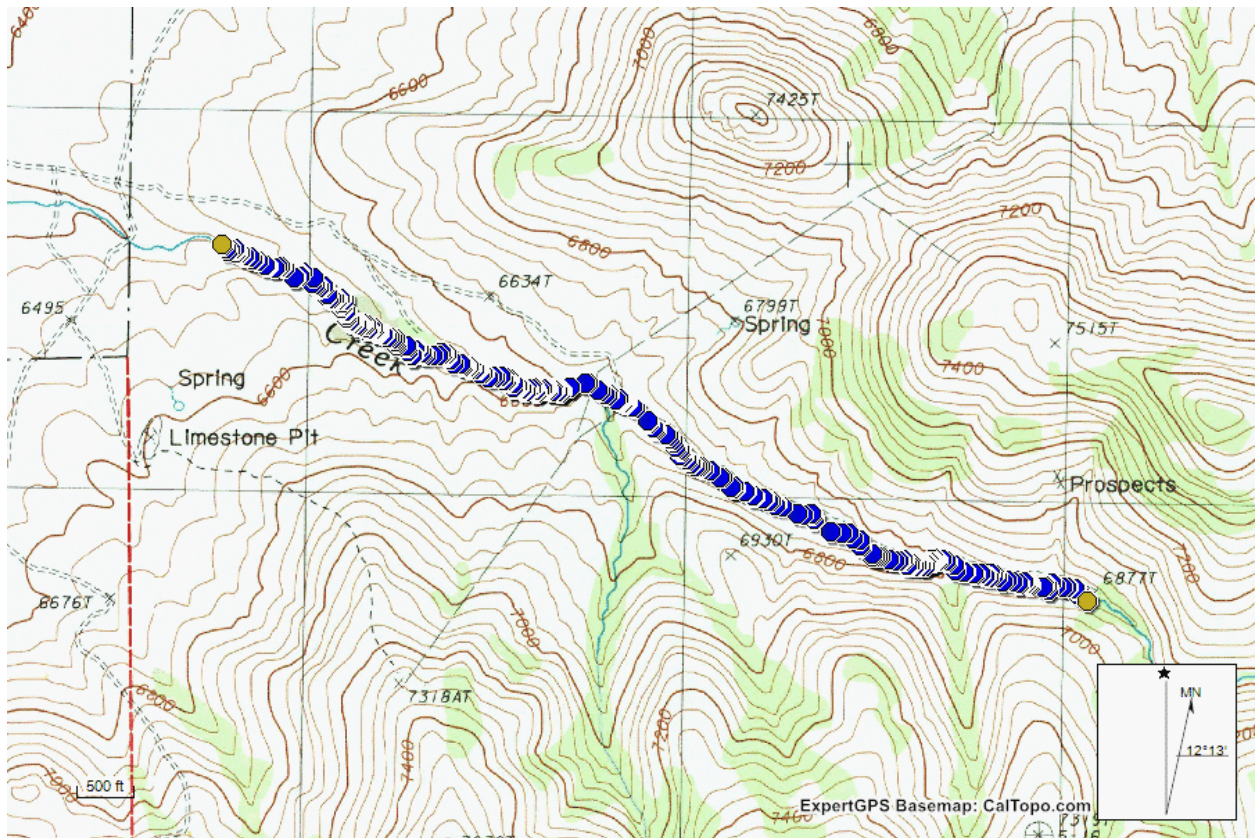


Figure 2. Species composition 2006 - 2020.



Map 1: Pearl Creek electrofishing area with yellow dots indicating start and stop locations and blue dots representing LCT captured.



DISCUSSION

These removal efforts have been effective at suppressing BKT. Since 2016 the BKT population has never reached more than 3% of the fish composition and has substantially dropped from the 68% composition found in 2007.

There was a substantial decrease in LCT captured when comparing the same reach of stream electrofished between 2018 (1016 LCT) and 2019 (351 LCT). The drop in individuals captured can most likely be correlated with the Corta Fire that burned significant portions of the stream in August of 2019. However, the population already seems to be rebounding as 734 LCT were found in 2020. It is expected that the population will continue to increase as riparian habitat conditions improve.

RECOMMENDATIONS

The LCT in Pearl Creek represent the largest single stream LCT population in the South Fork Humboldt River Subunit. With this being the case, the stream has become an important donor stream for LCT reintroduction efforts within the subunit. The removal of Brook Trout should be continued to protect the LCT population. A chemical treatment is not feasible due to the expanded range of the LCT, so mechanical removal will continue. The lowest portion of the stream (below the natural barrier) should now be included in the removal efforts.

APPENDIX 6

USFS Policy: Authorizing and Expending Federal Fund Livestock Water Developments



Forest
Service

Intermountain Region

324 25th Street
Ogden, UT 84401

File Code: 2540 Date: August 29, 2008

Route To:

Subject: Authorizing and Expending Federal Funds for Livestock Water Developments

To: Forest Supervisors

The Intermountain Region manages livestock grazing allotments in six states. Each State has unique livestock water right laws that often cause confusion for Forest Service (FS) employees, as well as for grazing permittees. This letter is intended to provide guidance on how to conduct activities associated with livestock water rights and to assess whether agency funds can be expended for construction or reconstruction of livestock water developments on National Forest System land.

It is FS policy (FSM 2541.03 & FSM 2541.32) to obtain and maintain water rights needed for National Forest purposes under State and Federal law in the name of the United States. Livestock grazing, by its nature, requires water. Sustainable livestock grazing is a valid and important use of National Forest System lands. Approximately 70 percent of those lands within the Intermountain Region are within livestock allotments. To ensure the continued viability of the federal grazing program, the United States, through the FS, has secured thousands of livestock water rights on federal lands pursuant to State law. The United States cannot obtain livestock water rights via Federal law. Therefore, compliance with the State law process is mandatory. Any new livestock water use must be secured legally before the use begins.

In addition, it is Intermountain Region policy (R-4 FSM 2241) that the FS must have a water right on a source before funds are expended on the ground or construction begins on any livestock water development or facility as defined in the regulations (36 CFR 222.9(b)(2)). The Intermountain Region will not invest in livestock water improvements, nor will the agency authorize water improvements to be constructed or reconstructed with private funds where the water right is held solely by a livestock owner. In some cases a permittee may hold a dual or joint livestock water right within the Forest Service. Such rights would not preclude the United States from expending funds for an improvement as it is applied to the water right held by the United States.

Each State has a process for obtaining and maintaining water rights. The appropriate process involves application and approval for specific elements of a water right. These result in issuance of permits, licenses or certificates, and decrees. In order to determine if a water right exists on a specific source, the FS should consult State water right records. Each State has an online database that can be used. Forests can also consult the FS state water right coordinator for their State to determine the status of a particular water right.

In recent years, ranchers and community leaders have challenged State laws pertaining to ownership of livestock water rights. Some ranchers believe that they should hold the water rights because their livestock actually use the water. Land management agencies have asserted that they permit the livestock to water on public lands and should therefore hold the water rights. Courts and Legislatures have reached varied conclusions. As a result, there are unique situations in each State that must be taken into consideration when managing a grazing program and the water rights associated with that activity.

Enclosed is a two page summary of unique State-specific considerations and the types of water rights that must be obtained and maintained in order to expend funds on livestock water developments.

I encourage you to share this information with your permittees and our interest in the continued viability of the federal grazing program

Please contact Darren Knuteson, Region 4 Water Rights Program Manager, at (801) 625-5829 or Rick Forsman, Region 4 Range Management Program Manager, at (801) 625-5598 if you have questions regarding water rights or range management.

/s/ Cathy Beaty for
HARV FORSGREN
Regional Forester

Enclosure

cc: Darren Knuteson
Jamie Gough
Richard T Forsman
William LeVere
Brent L Larson
Jeanne Evenden

L:JEVENDEN:cbh:8

