1. Chapter 1: Understanding SHaRP

SHaRP is the acronym for the Salmonid Habitat Restoration Priorities process. SHaRP engages local experts to identify the most important, reach and site-scale salmon and steelhead habitat restoration actions to initiate in the next 10 years. SHaRP uses a collaborative decision-making process based on the best available information.

The SHaRP process was initiated jointly by the National Oceanic and Atmospheric Administration’s National Marine Fisheries Service (NMFS’s West Coast Region and Restoration Center), Northern California Office, and Northern Region 1 of the California Department of Fish and Wildlife (CDFW) (the agencies). The agencies are charged with conservation and recovery of threatened species under their respective jurisdictions. SHaRP was developed and piloted in the South Fork Eel River (SFER) sub-basin of the Eel River, in northwestern California. The SFER SHaRP pilot was led by a steering team made up of NMFS and CDFW representatives. The SFER SHaRP Collaborative, which created this document, includes the members of the steering team and all representatives from other local, state, and federal agencies, restoration organizations, tribal governments, environmental consulting companies, and landowners that participated in one or more Expert Panel meetings (where the major problems in a sub-watershed were identified) and Action Team meetings (where the restoration solutions for those problems were determined).

Why the South Fork Eel River?

This watershed was selected due to the following important aspects:

- It plays a key role in salmonid recovery, as described in the respective recovery plans for Chinook Salmon, Coho Salmon, and steelhead
- Many landowners are willing to host habitat restoration projects
- Numerous restoration practitioners have been working in the watershed for decades
- A wealth of data is available that describes salmonid abundance and distribution, aquatic habitats, and watershed conditions, most collected by CDFW in support of their South Fork Eel River Watershed Assessment (CDFW 2014). The Collaborative relied heavily on the information compiled and analyzed in that document. We encourage the reader to review the watershed assessment prior to any project planning effort in the SFER; it can be downloaded at this location: http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=175820

The Need for SHaRP

Pacific salmon and steelhead (Oncorhynchus sp.) have experienced a marked decline in abundance over the past 150 years. The federal Endangered Species Act addresses the protection of plant and animal species
whose populations are dwindling to critical levels.

Across the West Coast, 28 Evolutionarily Significant Units (ESU) and Distinct Population Segments (DPS) of salmon and steelhead are listed as threatened or endangered under the federal Endangered Species Act (NMFS 2019).

The California Endangered Species Act (CESA) (Fish and Game Code §§ 2050, et seq.) generally parallels the main provisions of the Federal Endangered Species Act and is administered by the CDFW. Two species of Coho Salmon are listed under the California Endangered Species Act (CESA), including SONCC Coho Salmon (CDFG 2004). The agencies work with federal, state, and local partners in California to rebuild populations of salmon and steelhead through a range of approaches, with habitat restoration as the foremost on California’s north coast. This work seeks to repair damage done to coastal wetlands, streams and rivers. Projects are targeted at restoring the diverse habitats that these fish use at the various stages necessary to complete the salmonid life cycle.

The agencies have respectively authored recovery plans for each species of salmonids in California listed as threatened under the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA). Recovery plans are “roadmaps to recovery”- comprehensive, non-regulatory documents that describe all the recovery actions needed to rebuild the target species to the point of recovery, when it no longer requires the protections provided by ESA/CESA. Recovery plans are generally written for a single species because the species are listed individually under these laws.

These recovery plans are intended to be used by anyone interested in recovering the target species. The scale of salmonid recovery plans in northern California is relatively broad, given that they address all recovery needs throughout a species range. For example, the Southern Oregon Northern California Coast (SONCC) Coho Salmon recovery plan describes the 41 populations of Coho Salmon ranging from California’s Mendocino County to Oregon’s Curry County that make up the SONCC Coho Salmon Evolutionarily

Some examples of local experts in the Collaborative:

- Agency fishery biologists that carry out salmonid monitoring every winter in the Sproul Creek sub-watershed.
- Invested landowners that have lived in the SFER watershed for decades.
- A State Parks ecologist working to protect remaining redwoods in the floodplain of Bull Creek.
- A timber company with large holdings in the area.
- A Native American tribe that has inhabited the SFER for millennia.
- A consulting geologist that designed a large-scale road-decommissioning project in the Standley Creek sub-watershed.
- Active non-profit organizations that have designed and implemented restoration projects throughout the watershed.
Significant Unit. Accordingly, the area described in a recovery action in northwest California is often a sub-basin (such as the SFER) or in some cases a sub-watershed (such as Hollow Tree Creek in the SFER). For each of these populations, the recovery plan lists the actions needed for the population of the subject species in a respective watershed. Listed actions can be numerous and may take decades to complete. It is important that recovery plans provide this comprehensive list as these actions are key to articulating how to ultimately delist a given species.

Habitat restoration, however, happens at a finer spatial scale than even the sub-watershed – such as at the scale of single site or a stream reach - and has a short planning horizon of up to 10 years. In addition, habitat restoration projects often consider multiple species simultaneously. Those interested in carrying out restoration-related recovery actions in California must consult the recovery plans but often ask the resource agencies for more specific guidance. Typically, inquiries surround site specific restoration needs and priorities in the context of population recovery (i.e. where are these restoration actions needed and what are the most important tasks to start with to increase fish numbers?). SHaRP planning is intended to provide these details.

The agencies recognize that people living in the watersheds, who have spent time studying or observing a particular area, have invaluable knowledge and insights that are key to determining:

- The most pressing problems to address first
- The best forms of habitat restoration (treatments) to address those problems
- The best reaches to apply these treatments

The agencies developed the SHaRP process to engage local experts, including their own staff, to take the planning to a finer scale within a watershed. By identifying an agreed-upon list of specific projects (treatment + location), an interested party can then develop projects and seek funding to carry them out.

By facilitating consensus of and collating recovery actions, this plan provides opportunities for multi-project collaborative funding and permitting efficiencies. We encourage stakeholders, funders and permitting entities to collectively work toward accomplishing the actions identified in this plan in order to directly affect salmonid population recovery trajectories.

The Pillars of SHaRP

The concept of SHaRP developed during agency conversations about how to best facilitate implementation of actions in recovery plans. Along the way, the agencies articulated key concepts, or pillars, that define SHaRP. These pillars guide SHaRP as a process and are key to its successful implementation. Since the SFER SHaRP is a pilot, the agencies expect it to be applied in other places to focus restoration efforts. Each analysis will be place specific and data and partners will vary. The following pillars illustrate fundamental components of the SHaRP process that we recommend be applied in future SHaRP efforts.
The Strength Pillar: A condition common to many species in decline is local extirpation of isolated or dependent populations, resulting in range contraction with a few areas of relative population strength remaining. SHaRP identifies the areas that currently have the best potential to be the source populations necessary for more widespread recovery of a species’ range and prioritizes actions that will continue to bolster these populations. We recognize that recovery of species is much more likely if we maintain the necessary seeds (See Salmon in Space section in Chapter 2).

Focus and Scale Pillar: SHaRP brings the recovery plan’s actions to a much finer, site or reach-level scale, culminating in specific projects that target a particular limiting factor. Given restoration dollars are limited, the best way to recover species quickly is to focus dollars on locations and treatments where they will have the most impact.

Community Pillar: SHaRP is a community planning effort. The agencies guide the process, but do not dictate or determine the outcomes. NGOs, landowners, restorationists, tribes, and fisheries and habitat experts (the Collaborative) all contribute throughout the process. For maximum engagement in the process and utility of the ultimate plan, it is critical that decisions are made in an open and transparent process.

Agency Alignment Pillar: SHaRP builds on agency recovery plans and watershed assessments. The agencies are heavily involved and aligned in SHaRP efforts, and as a result they agree with the outcomes of the process. Proponents seeking to implement
projects identified in the plan are assured the agencies agree with the premise and need for those projects.

**Multi-Species Pillar:** All threatened and endangered salmonid species occurring in the watershed are explicitly considered in the SHaRP process, although a single species may determine selection of the watershed where SHaRP is applied.

**Science Pillar:** SHaRP is driven by sound science. Decisions are based on the available regional data, applicable scientific literature, and the knowledge of local experts.

**Decision Pillar:** It is essential we make decisions, while acknowledging uncertainty, rather than waiting to make decisions until the ideal information is available. We proceed understanding recovery is a process, learning and adapting along the way as projects are implemented.

**California’s North Coast Salmon Project and Cutting the Green Tape Initiatives**

In 2019, CDFW launched a new initiative, the North Coast Salmon Project (NCSP), to expedite and enhance efforts to recover the threatened and endangered Coho Salmon on the North Coast of California. NCSP staff have been integral to the SFER SHaRP process and have initiated SHaRP in four other areas of the Northern California coast: the Lower Eel River, coastal streams in Mendocino County, the Russian River in Sonoma County, and Lagunitas Creek in Marin County. Together, these five pilot applications of SHaRP will demonstrate how this flexible model can be applied at different spatial scales, with varying levels of existing data and differing levels of prior partner engagement and watershed planning.

Simultaneously, CDFW, the NCSP, and other agency partners are engaged in a California Natural Resources Agency initiative known as “Cutting the Green Tape” (CGT) (California Landscape Stewardship Network 2020). Through discussion and coordination with the restoration community, CDFW is developing and adopting permitting and grant administration efficiencies to promote restoration of California’s diverse ecosystems, with an initial focus on the NCSP areas. This initiative will include a focused Proposition 1 Proposal Solicitation Notice (PSN) that will direct funding specifically towards restoration projects within the five NCSP areas listed above (including the SFER). This focused PSN and initial, associated permitting efficiencies will be released in the summer of 2021, and will focus resources to fund and permit projects described in this document. By facilitating permitting and infusing funding into priority areas, CDFW hopes to reverse the rate of species decline and restore California’s treasured natural fisheries and aquatic resources in these locations.

**SHaRP in Action in the SFER**

The SFER SHaRP pilot began with the formation of an agency steering team to guide the process. This team was composed of salmonid recovery, restoration, monitoring, and GIS specialists from CDFW and NMFS. The steering team gathered and summarized information on fish and human population
distribution, landscape character and disturbance, and aquatic habitat quality. The steering team used this information to rank the relative potential of SFER sub-watersheds for recovery and solicit stakeholder input to the decision making.

After defining the sub-watershed focus areas, the steering team identified and gathered an Expert Panel to review existing data on habitat quality and identify limiting factors and threats in each sub-watershed. The steering team then organized experts, restorationists and landowners into an Action Team to translate limiting factors and threats into site and reach-level restoration treatment prescriptions.

Lastly, the steering team organized the authorship of this document by the SHaRP Collaborative, which includes all of the local experts that participated in the process through the Expert Panel and Action Team meetings.