Forest Planning Watershed Pilot Projects Concept Paper

Implementation Draft

Timber Regulation and Forest Restoration Program

May 25, 2016

Introduction

This concept paper describes the approaches intended to be use in conducting planning-watershed-based pilot projects to identify opportunities to increase efficiencies and effectiveness for timber harvest planning and permitting processes and for forest restoration. This is the third draft of a concept paper, and it is intended to serve as the implementation guidance for the initial pilot project. This version has been revised following public input, including at our October 14 and December 15, 2015 public workshops and written comments received.[1]

Since the December cycle of concept paper, workshop, and written comments, we have selected the Campbell Creek planning watershed on the Ten Mile River for the initial pilot project. Located in Mendocino County, this planning watershed is owned in entirety by the Lyme Redwood Company. The Timber Regulation and Forest Restoration Program appreciates Lyme Redwood Company's interest and willingness to be our first pilot project partner. With their strong interest in forest conservation and restoration, we believe that Lyme will be an excellent partner.

The specific substantive areas to be addressed by the pilot projects include:

- Data collection and characterization;
- Identification of information and methods used for cumulative environmental impacts assessment;
- Description of current forest conditions; and
- Identification of restoration opportunities in forested landscapes.

The work will be based primarily on existing information found in timber harvesting plans (THPs), spatial datasets, and reports. The pilot projects will be collaborative, multi-disciplinary efforts, guided by broad-based Pilot Project Working Groups (PPGWs), which also provide opportunities for public participation. Stakeholder interest in pilot projects for these purposes has been in discussion for some time and has been reflected in past bills considered by the California Legislature, though none of these bills ultimately became law.

Many of the comments received on the second draft Concept Paper and from the December 15, 2015 workshop were related to the scope of the pilot projects, specifically the extent to which they would describe existing conditions, conduct a watershed assessment, incorporate a "reference" or "control" watershed for comparison, use or

[1] The written comments received are posted to our website: http://resources.ca.gov/forestry/comments/

develop cumulative effects assessment methods, or address broader questions that will be addressed through other efforts of the Timber Regulation and Forest Restoration Program. We have added language to clarify that the work of the pilot projects includes describing existing forest conditions. These descriptions will be based on the data and information brought together as a part of the pilots. Current conditions are an important point of departure for determining restoration needs.

As stated in earlier versions of the Concept Paper, we view the conduct of detailed watershed assessments or cumulative effects assessments or the development of new cumulative effects assessment methods as being beyond the scope of the pilot projects.

A second area of multiple other comments received was related to the composition, establishment, and responsibilities of the PPWG, as well as compensation for PPG members. The topic of PPWG composition and function was one of the areas for which we had specifically requested input. We provide more details on these matters in the section on "Process and Collaborative Elements."

A third area of substantial comment was related to selection of the initial planning watershed pilot, which is another area on which we had requested input. An updated discussion of the selection of the initial pilot watershed, Campbell Creek, is addressed in the section on "Process and Collaborative Elements."

The Timber Regulation and Forest Restoration (TRFR) Program will lead the Campbell Creek pilot project effort, with major guidance from the PPWG. By reviewing existing THPs and other information sources in the chosen watershed, the PPWG will develop an understanding of how well existing information sources can inform broader thinking about effects on watersheds. The results of the pilot project have the potential to be beneficial for consistent and well informed harvest plan preparation and review, as well as for identifying opportunities for restoration. Products resulting from the pilot project are intended to support the development of improved, standardized information for conducting cumulative impact evaluations at the planning watershed scale. The products produced also are intended to allow restoration practitioners and landowners in the pilot watersheds to make progress in selecting and implementing recovery actions such as those from the National Marine Fisheries Service (NMFS) (2012) Central California Coast coho recovery plan and from the state Recovery Strategy for California Coho Salmon (California Department of Fish and Wildlife, 2004). The pilot project products also aim to include information from which restoration opportunities for terrestrial wildlife habitat can be identified. The identified forest restoration opportunities are anticipated to be appropriate for funding through the forest restoration grant programs administered by the Department of Fish and Wildlife, Department of Forestry and Fire Protection (CAL FIRE), and the State and Regional Water Boards, using monies from the TRFR Fund.

Findings from the pilot projects also have the potential to assist other areas of work related to California forests and forest practices. These other areas include:

- The TRFR Program's development of ecological performance measures for evaluating the effectiveness and efficiency of forest-related regulatory programs in reaching their environmental goals.

- The Board of Forestry and Fire Protection Effectiveness Monitoring Committee's work to evaluate the effectiveness of the Forest Practice Rules and related water quality, fish, and wildlife regulations at environmental protection.

Funding and staffing for these pilot projects was provided as a part of the State's Fiscal Year 2015-16 budget. Up to four pilot projects are anticipated. The initial pilot project on Campbell Creek will be conducted to develop the approach, followed by the completion of up to three additional pilots in order to refine or revise the approach and test its application in several, differing planning watersheds. The number of pilot projects eventually completed is dependent upon the ability to answer the critical questions identified in this concept paper, the likelihood that the answers to these questions would be enhanced by implementing the pilot project in a different planning watershed, and the cost and resource commitment associated with conducting the projects.

Substantive Elements

Basic approaches for the conduct of each of the pilot projects include:

- Establishing a collaborative "pilot project working group" (PPWG), composed of stakeholders and natural resource professionals, to guide the work of each pilot project.
- Assigning an interagency interdisciplinary team (composed of Review Team Agency staff) to assist the PPWG.
- The PPWG, guided by this concept paper and with the assistance of the interagency interdisciplinary team, will develop a scope of work for the pilot project, including the types of information to be collected and the products to be produced.
- The interagency interdisciplinary team will play a lead role in gathering existing information sources and otherwise supporting the work of the PPWG.
- Establishing a minimum standard for information to describe existing watershed conditions (e.g., producing needed information in a consistent and cost-effective manner).
- Reviewing past timber harvesting plans and any other relevant documents to identify and document the cumulative effects assessment approaches that have been used on the planning watershed.
- Using the PPWG and interagency interdisciplinary teams to ground truth preliminary office results and determine if there are significant gaps in existing information.
- Based on available information, the PPWG and interagency interdisciplinary team will work to describe the current biophysical and ecological conditions of the planning watershed and the role of land management in shaping those conditions.
- Using the information collected to identify specific restoration opportunities.
- Development and use of a collaborative, on-line geographic information system.

A set of proposed critical questions has been developed to help frame the focus of the pilot projects and is presented below. The substantive elements listed above and the

critical questions listed below need to be considered together to fully comprehend the intended scope of the pilot projects. If needed, scientific or technical experts may be brought into the process.

In response to earlier drafts of this Concept Paper and our public workshops, we received a large number of comments on the proposed scope of the first pilot project. We believe that the process will be best served by a more focused, direct, and simple approach for the first pilot project in particular. This focused scope is reflected in this section and the section below.

We also received comments requesting more specifics about what will be done in the pilot projects. We think that we are providing enough specifics in this implementation draft to make it clear to the public what is intended for the pilot projects and to guide the work of the PPWG and interagency interdisciplinary team. We believe that there needs to be some flexibility for the scope and approach of the pilot projects to evolve as specific planning watersheds are selected and the PPWGs and the interagency interdisciplinary team begin their work. This evolution will be made clear to the public as it occurs through the transparency of and public involvement in the pilot process.

Proposed Critical Questions

As a part of addressing the substantive elements described above, six potential critical questions are proposed for the pilot projects:

1. What criteria and methods can be employed, at the planning watershed scale, to identify restoration needs and priorities for watershed and biological resources based on available information in THPs and other readily available sources?

2. Do past THPs, collated on a planning watershed basis, contain the information needed to guide restoration at the planning watershed scale?

3. What are the qualitative and quantitative methods presented in THPs to analyze the potential for THPs to create or add to adverse cumulative effects on watershed and biological resources?

4. Is there adequate information available in past THPs and other available data sources to thoroughly and accurately characterize current biophysical and ecological conditions on the planning watershed?

5. Are there major gaps in the types or quality of available information, on a planning watershed scale, that would be useful for THP preparation and review, and assessment of cumulative impacts?

6. If there are gaps, what additional information is needed and what data are available?

7. What restoration needs or cumulative impacts can be identified from the planning watershed scale versus needing a different spatial context?

These critical questions provide an initial level of focus and scope for the pilot projects. The work of the PPWG will help to further focus and refine these questions for the initial pilot planning watershed, Campbell Creek. For example, the focus here is on the planning watershed scale, but results may show that this scale of analysis is not always large enough to understand conditions and processes at the planning watershed scale. Please note that the critical questions should be taken together with the above-listed substantive elements to fully understand the intended scope of the pilot projects.

Data Collection and Characterization

Data will be collected and collated in standard spatial format for each of the pilot projects. Information sources include past THPs and other available permitting documents (e.g., habitat conservation plans, watershed- or ownership-wide waste discharge requirements, master agreements for timber operations, erosion control plans), the Department of Forestry and Fire Protection's (CAL FIRE) Forest Practice Watershed Mapper and Cal MAPPER geographic information systems (GIS), and other data sources identified in the course of each pilot project. The intent is to bring together and evaluate ***existing*** available data. There is no intent to collect ***new*** data in the field. The spatial information is to be organized by CalWater 2.2 planning watersheds.

One exception to the "no new data collection" rule is that the Timber Regulation and Forest Restoration Program is working to acquire LiDAR data for the initial pilot watershed and surrounding areas. This highly accurate digital data can be used for multiple purposes, including checking the accuracy of other data sets (e.g., streams, roads, landslides, digital elevation models) and for allowing new kinds of analyses and modeling.

With guidance and participation from the PPWG, an interagency interdisciplinary team made up of the Review Team agencies (i.e., CAL FIRE, California Geological Survey, Department of Fish and Wildlife, and the Water Boards) will help to assemble and organize existing data in a logical and useful manner and ground truth preliminary office results to identify significant gaps in existing information. It will be important to develop metadata for all datasets that are used.

The PPWGs, with assistance from the interagency interdisciplinary teams, will evaluate all information sources and data covering topics such as geology, fisheries, aquatic and terrestrial habitat, hydrology, and the locations of existing restoration projects, including on-the-ground review or verification of information. PPWGs will **not** conduct formal watershed assessments or cumulative effects analyses.

Of particular interest is collating and evaluating the information provided in THPs in satisfaction of the Forest Practice Rules at 14 CCR 916.4, which require the registered professional forester to (1) examine and map specified conditions of watercourses and lakes and (2) consider these conditions and those measures needed to maintain and restore, to the extent feasible, specified functions and processes within the watercourse and lake protection zone. We will explore how spatial databases can track the

restoration activities that have been completed on planning watersheds, restoration actions that are identified as needed, and when these latter actions are completed. Reporting on these accomplishments on an annual basis by the TRFR Program would be valuable to the agencies, Board of Forestry and Fire Protection, and the public.

As part of the process, standardized data symbols will be developed for mapping spatial features. The intent is to produce a standardized symbology that could be used in all THPs, related permitting or planning documents, or other harvesting and forest restoration related maps. This standardization could create efficiency for both harvesting plan preparers and reviewers.

All data developed as a part of the pilot projects will be fully available to the public in as transparent a manner as possible. The availability of spatial data and methods of utilizing it (viewing or analyzing) are critical for the landowners and the forestry professionals who work with them, the review team agencies, and interested stakeholders or members of the public. Thus, as a part of the pilot projects, we intend to experiment with an open, online, collaborative GIS. One example of such systems is DataBasin (http://databasin.org/).

The learnings from the pilot project on data collection and characterization will be valuable to the TRFR Data and Monitoring Working Group, which in turn has an important role in supporting the data and monitoring needs of the Ecological Performance Measures Working Group.[2]

Based on the data and information gathered, the interagency interdisciplinary team and the PPWG will develop a description of current biophysical and ecological conditions on the planning watershed.

Cumulative Impacts Assessment Information and Assessment Approaches Used

Following an explicit cumulative impacts assessment process can provide the information necessary to identify potential mitigation measures, improve longer term planning, and to help set priorities for restoration (MacDonald, 2000). Improvements in cumulative impacts assessment methodologies have occurred over the past 25 years (MacDonald et al. 2004; Benda et al. 2007). However, the ability to accurately assess cumulative impact is often limited by the lack of data for characterizing the resources of concern (e.g., listed species; TMDL listings), identifying the key cause-and-effect mechanisms affecting these resources, and data on past disturbances that might be driving these impacts (MacDonald, 2000).

Given these considerations, the information developed in the data collection and characterization phase will be reviewed for its utility for filling these types of data gaps. Since many of the problems associated with cumulative impacts assessment also come from poorly defining the spatial scale of analysis (MacDonald, 2000), assessing the appropriateness of the planning watershed scale for restoration needs analysis also will be a focus of the pilot projects.

[2] Charters for these two Working Groups are available on our Program website (http://resources.ca.gov/forestry/) under "Organizing to do our Work."

Pilot projects could inform processes for the assessment of cumulative impacts, and may result in long-term efficiencies and cost savings to landowners and reviewing agencies, provide meaningful information to the public, and help to improve effectiveness in the protection and restoration of soil, water, fish, wildlife, timber, and other forest values and resources. The pilot projects will focus on specific information necessary for evaluating cumulative impacts, developing and recommending standardized requirements for the information, ensuring the information is developed at relevant spatial scales (with consideration of CalWater planning watersheds in particular), and exploring ways to provide electronic public access to the documents and spatial information that assist CAL FIRE, other review team agencies, and public stakeholders in the cumulative impacts assessment. These approaches also mesh with the responsibilities of the TRFR Program's Data and Monitoring Working Group.

As THPs are reviewed, the interagency interdisciplinary team will work with the PPWG to catalog the cumulative effects assessment approaches that are used.

Identification of Restoration Opportunities

To define "restoration" in the context of the pilot projects, we borrow from the Society for Ecological Restoration: "Ecological restoration is the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed."[3]

As with cumulative impact assessment, effective restoration planning benefits from following an explicit process that focuses on the causes rather than symptoms of resource degradation (Beechie and Bolton, 1999; Beechie et al., 2008). Effectively implementing this kind of approach to restoration can be data intensive (Beechie and Bolton, 1999), and oftentimes data can be a limiting factor during restoration prioritization (Beechie et al., 2008; Palmer et al., 2007). Additionally, the THP process focuses on Forest Practice Rule and California Environmental Quality Act compliance, rather than finding the root causes of ecosystem degradation. Given this context, it will be necessary to determine if THP information collected for a different objective (i.e., compliance with statute) is of sufficient quality and resolution to drive restoration prioritization and decision-making.

Since a fundamental principle of restoration is to "match the scale of restoration to the scale of the problem" (Beechie et al., 2010), the pilot projects also will assess whether or when the planning watershed is an appropriate scale of analysis for informing restoration planning and prioritization. This information can then be used to inform the landowner's development of projects for restoration grant programs and/or for incorporation into future THPs. Restoration grant programs that may be able to provide assistance include the Department of Fish and Wildlife's Fisheries Restoration Grant Program, the State Water Board's 319h grant program, and CAL FIRE's California Forest Improvement Program. All of these programs receive funding from the Timber Regulation and Forest Restoration Fund and other sources.

The information developed in the first two substantive phases of the pilot projects (data assembly and data characterization, and cumulative impacts assessment information)

[3] http://www.ser.org/resources/resources-detail-view/ser-international-primer-on-ecological-restoration#3

will be used in conjunction with resources such as the federal and state recovery plans for listed fish and wildlife, California Salmon Snapshots, State Wildlife Action Plan, knowledgeable agency staff, and restorationists to identify environmental impacts, their causes, and specific, appropriate restoration actions for a given planning watershed.

When identifying appropriate restoration actions, it is important to make the distinction between restoration and mitigation. This is particularly important given that Assembly Bill 1492 specified that Timber Regulation and Forest Restoration Funds may not be used to pay or reimburse requirements, including mitigation, as a condition of any permit [Public Resources Code § 4629.8(b)]. With respect to salmonid and steelhead trout restoration, the state policy has been to encourage public participation in publically funded mitigation, restoration, and enhancement programs [Fish and Game Code § 6902 (b)] (Flosi, G. et al, 2010). In addition, when the holder of a working forest management plan or a nonindustrial timber management plan applies for state restoration grant funding for a restoration project that has a significant public benefit, the application shall not be summarily denied on the basis that the project is a required condition of the harvesting plan (Public Resource Code § 4597.19).

Process and Collaborative Elements

Overall Process

This concept paper is intended to be an initial step in the process of developing and implementing the pilot projects. Public participation/input will be accomplished during the pilot project process through the PPWG and through collaboration with landowners and relevant stakeholders, including environmental organizations, nongovernmental organizations, federal agencies, timber industry representatives, and restoration practitioners. This public input and the PPWG will guide the development of the specific objectives of each pilot project, guide their implementation, help interpret the results, and develop the recommendations that come out of the process. An interagency interdisciplinary team assigned to the planning watershed also will assist with this. Additional guidance of the process may be provided by the soon-to-be-established TRFR Program Advisory Committee.

The attached Figure 1 shows a flow chart for major steps in the overall pilot project process. The first major step, the TRFR Program inviting forest landowners and the public to attend a public meeting on the pilot project concept, was held on October 14, 2015. At that meeting, which was webcast and recorded, we received input on the overall pilot project concept, development of an objective process for selection of the pilot projects, and what the composition should be of the Pilot Project Working Group (PPWG) that will be formed for each pilot project. Following the October public workshop, we released an updated concept paper on December 2. This latter draft was discussed at a December 15 public workshop, where public comments were provided. We also received written comments on the December 2 draft. This process of two drafts and two workshops lead to the TRFR Program developing this version of the final pilot project description document that will be used to guide the implementation of the first pilot project.

Selection of the Initial Planning Watershed Pilot

There are many potential criteria or processes that could be applied to select the planning watershed for the initial pilot project. At the outset, the TRFR Program decided to establish the initial pilot project in the North Coast region, given the level of interest there and the presence of a number of listed species on forest lands. The TRFR Program specifically requested input from stakeholders on the selection process. Their suggested selection criteria include:

- Watersheds with recent harvest activity or other recent data sources so that we are not working with only older data.
- Watersheds with more THP frequency provide more information and better picture of current conditions.
- Listed species are present
- Recovering vs. highly impacted watershed.
- Supportive landowners; willingness to provide access to agencies, PPWG, and public.
- Moderate to high level of data available.
- Select a watershed with an average amount of data.
- Data-rich watersheds with more than just THP data available to avoid skewing results to only that source.
- Availability of monitoring data and scientific studies.
- Good potential to restore conditions for aquatic and terrestrial species.
- Consider doing two pilots to start, with different conditions in each.
- A watershed with multiple landowners will capture different practices and results.
- Need a reference watershed as companion to pilot watershed.

The TRFR Program used a GIS analysis approach to begin the planning watershed selection process. We selected the North Coast as the region for the first pilot project due to the level of interest in that area and the presence of several listed species. Using GIS, staff intersected Coastal CalWater Hydrologic Areas from Humboldt Bay (Eureka Plain) south through the Gualala watershed with CAL FIRE's Forest Practice GIS data representing timber harvesting (1997-present). This primary round of analysis resulted in the selection of 16 individual Hydrologic Areas, which included 68 individual planning watersheds.

Program staff then crafted a preliminary set of criteria in order to be able to compare differences among watersheds being considered for selection in the pilot project. The criteria and results were listed in a spreadsheet, allowing a side-by-side comparison of potential watershed candidates. The criteria categories are intended to provide a way to compare attributes of the watersheds and enable a way to reduce the large number of planning watersheds to a smaller subset that contain preferred qualities that the public has commented on or that the TRFR Program staff have identified. The criteria also provide a preliminary understanding about the types and availability of watershed data that will likely be expanded upon during a pilot project study.

The planning watershed attributes considered include the rate and area of timber harvest in a planning watershed, the silvicultural methods used for those entries, the amount and complexity of available scientific data, the amount of available imagery, and the occurrence of threatened and endangered species. This compilation was not an attempt to be exhaustive in identifying potential watershed attributes, but rather to flesh out a number of significant, relevant categories to foster discussion.

A secondary round of analysis that included a review of the silviculture and landownership pattern resulted in a list of 29 potential planning watersheds. A further review of each planning watershed and its actual topography ruled out those that were not logically delimited planning watersheds. A visual assessment of locations further reduced the number to a target number of 10 planning watersheds. The resulting list of watersheds and a subset of the evaluation criteria are presented in Table 1 at the end of the document. The full spreadsheet of information, a glossary of the information categories contained in the spreadsheet, and a set of maps is available on the TRFR Program Website at http://resources.ca.gov/forestry/.

In response to the December Concept Paper revision and workshop, we received many comments recommending watersheds for the first pilot project. There were many comments recommending Usal Creek in particular. Ultimately, we selected the Campbell Creek planning watershed on the Ten Mile River in Mendocino County. Major factors in this selection were:

- An extensive history of timber harvesting, including recent years;
- Significant amount of information available;
- Critical importance as Coho salmon habitat;
- Strong interest from NOAA Fisheries;
- A single landowner who is interested in participating and has a strong commitment to restoration;
- Accessibility for ground truthing information.

Pilot Project Working Group

Responsibilities Members of the PPWG will play a substantive role in guiding the work on the pilot project. These responsibilities include:

- Attending and participating in meetings of the PPWG, including field visits.
- Helping to refine the scope of the pilot project.
- Reviewing information and materials between meetings.
- Assisting with analysis of information or data.
- Assisting with writing or reviewing reports.
- Contributing to the development of findings and recommendations.
- Seeking input from the public.

The interagency interdisciplinary team is available to undertake the more demanding and complex workload necessary to support the pilot project and the work of the PPWG.

Some members of the interagency interdisciplinary team also may serve as agency representatives on the PPWG.

Membership The specific composition of the initial pilot project PPWG will be tailored to the Campbell Creek planning watershed, with adjustments made by the TRFR Program in consultation with interested stakeholders. The proposed composition, based on ten categories of members, is similar to that proposed in AB 875 (Chesbro, 2013), with the addition of categories for persons owning or managing forestland on the pilot watershed, a tribal representative, and a fisher person representative. Some individual appointees may fit under more than one category. The intent is to provide a balanced representation of stakeholders on the PPWG. The proposed membership categories are:[4]

Agencies

1. One to two[5] representatives each from (a) Department of Forestry and Fire Protection, (b) Department of Fish and Wildlife, (c) state or regional Water Boards, and (d) California Geological Survey. To the extent feasible, each agency shall have representatives who, collectively, have expertise in the sciences and art of environmental assessment and the collection and organization of data.
2. If available, up to two qualified representatives from federal agencies involved in fisheries, wildlife, or forestry issues.

Public Stakeholders

1. One to two qualified representatives from the environmental community.
2. One to two qualified representatives from large and small forestland owners.
3. One to two registered professional foresters, one of whom shall have experience with preparing harvesting plans for small, nonindustrial forest landowners.
4. Two scientists, including, but not limited to, qualified fisheries and wildlife biologists.
5. One to two qualified representatives from the watershed restoration practitioner community.
6. One to two persons who own or manage forestland on the pilot project planning watershed.
7. A tribal representative with a background in tribal and traditional ecological knowledge, forest management, or restoration.
8. A qualified representative of persons who engage in commercial and/or sport fishing.

[4] While we are proposing this composition for the initial PPWG, we anticipate that membership for subsequent PPWGs would be very similar.

[5] We received numerous comments on the “up to two” language that was used in the December 2, 2015 draft. Some were concerned this might mean that no one from a particular category might be appointed. Some pointed out that “up to two” departed from the language of AB 875, which called from two persons from each category enumerated. We have changed the “up to two” language here to “one to two.” We do not want to appoint a fixed two persons from each category as we are concerned that might result in an impracticably large PPWG. Experience shows that 12 to 15 members is a workable size for a group like the PPWG. We believe that some flexibility in composition is needed to put together a team that reflects the nature of each of the pilot watershed projects.

While the PPWG is to be composed of members from particular representative categories, they are to be chosen for their knowledge and their ability to represent the broad public interest. We believe that a PPWG membership of 12 to 15 public stakeholder members will provide balanced stakeholder representation as well as a workable team size.

The TRFR Program will solicit member nominations and applications in an open process. We will invite individuals to apply or nominate others. We also will invite organizations, coalitions, or agencies to nominate or recommend individuals they think would make good representatives. When we release the solicitation for PPWG members, we would appreciate help from stakeholders to spread the word, encourage well qualified candidates to apply, and recommend persons who they think would make good, representative PPWG members.

Selection and appointment of members will be made by the California Natural Resources Agency Assistant Secretary of Forest Resources Management in consultation with the AB 1492 Leadership Team. We will acknowledge the receipt of all applications for the Pilot Project Working Groups. Assuming a manageable number of applicants, all applicants will be interviewed to ensure both that we understand the qualifications of the applicants and that applicants understand the expectations of Pilot Project Working Group members. We will contact all applicants at the completion of the selection and appointment process to communicate the outcome. Members will be appointed for the duration of the life of the pilot project, which is estimated to be approximately 24 months.

Financial Considerations PPWG members may request reimbursement for their actual and necessary expenses incurred in the performance of official business related to the pilot projects, such as travel to attend PPWG meetings. Reimbursement of expenses will be handled by the California Natural Resources Agency (CNRA) in accordance with State reimbursement policies and procedures.

We have been actively seeking funding and authority to allow us to make a per diem stipend payment to non-agency PPWG members for their participation in PPWG meetings. We have a “Spring Finance Letter” currently being considered by the Legislature’s budget process. This proposal may be found on-line at: http://web1a.esd.dof.ca.gov/Documents/bcp/1617/FY1617_ORG0540_BCP704.pdf.

PPWG Meeting Processes The following processes will be followed for PPWG meetings:

- All meetings of the PPWG will be publicly noticed in advance and members of the public will be welcomed to attend and provided opportunities to make comments.
- To the extent technologically practicable, all PPWG meetings will be webcast.
- To the extent practicable, PPWG members will use a consensus process to do their work and to make their findings and recommendations. These will be recorded in

writing and posted to the Timber Regulation and Forest Restoration Program website.
- When the PPWG cannot practicably achieve a consensus finding or recommendation, it may use a voting process to make a decision. The concerns of those in the minority position on a vote should be identified and recorded.
- If needed, a professional meeting facilitator will be provided by the CNRA.

The public is welcome to attend, provide information, and make comments at PPWG meetings. Additional participation and input opportunities, including workshops to discuss and take comments on draft work products, will be provided to the public, as indicated in the pilot project process flow chart in Figure 1.

Expert Consultant Support for the PPWG If the need is identified for specific expertise to assist the PPWG in its work, and that expertise is not otherwise available through agency staff or members of the PPWG, the TRFR Program will seek to provide this support through contracting resources that are available at the CNRA specifically for supporting the pilot projects.

Responsible State Official The state official directly responsible for the work of the PPWG and for receipt of its final products and recommendations is the Natural Resources Agency Assistant Secretary of Forest Resources Management. The next higher level of responsibility is held jointly by the Undersecretary for Natural Resources and the Undersecretary for the California Environmental Protection Agency.

Next Steps

Following the release of this "implementation draft," the TRFR Program will then conduct and complete the process for the establishment of the PPWG, and designate the interagency interdisciplinary team. Then the implementation of the initial pilot will begin. Some period into the implementation of the pilot projects, the TRFR Program will hold a mid-implementation public workshop, at which the PPWG will report out and take public comment on its progress to date. When the PPWG completes its work, it will prepare a draft report of findings, conclusions, and recommendations, including information regarding needed restoration projects on the planning watershed. The draft report will be discussed at a public workshop, comments will be collected, and a final report prepared by the PPWG.

The TRFR Program—including the Leadership Team and the Data and Monitoring Working Groups—will then be responsible for taking the reports of each of the pilot projects and integrating their lessons on efficiencies in data, analysis, restoration, and adaptive management. The Program will then take steps to implement these lessons.

Implementing Lessons from the Pilot Projects

The organized datasets developed as a part of the pilot projects will be made available to stakeholders to (1) improve cumulative impacts assessment for harvesting plans developed in a given planning watershed, (2) inform limiting factors analysis for listed anadromous salmonids and terrestrial wildlife species, (3) quickly and efficiently identify needs and opportunities for restoration, (4) provide a common base set of information

for use in future THPs within a given planning watershed, and (5) promote cost-effective and meaningful monitoring strategies. Collaborative approaches have a higher likelihood of success, since several interagency interdisciplinary team efforts have proven successful in the past, including the 208 BMP assessment (SWRCB 1987), the Interagency Mitigation Monitoring Project (IMMP) (Longstreth et al. 2008), and the Battle Creek rapid assessment (Battle Creek Task Force 2011).

Project Reporting

Information from the initial pilot project will be summarized in a comprehensive report and compared to future pilot projects in other areas of the State. Summary reports will be expected to include GIS-based spatial information, tables, spreadsheets, plots, figures, maps, etc., possibly using a collaborative, on-line GIS as a mapping and analysis platform for recording and presenting standardized information. The findings from the pilot projects will provide further information on the types and robustness of existing available information in forested watersheds, and will be used to develop recommendations to the Board of Forestry and Fire Protection for approaches to standardizing THP data characterization and changes to the cumulative impacts assessment informational requirements. These changes are intended to:

- Improve efficiencies and effectiveness in plan preparation and review;
- Reduce future costs for landowners and reviewing agencies;
- Provide improved transparency in the plan review process;
- Further refine methods of data/information presentation and cumulative impacts assessment in forested watersheds; and
- Support environmentally sound outcomes from harvest permitting and implementation processes and implementation of restoration projects.

We will report to the Legislature on the pilot projects through our regular annual reporting process for the AB 1492 Program.

Where Do the Planning Watershed Pilot Projects Fit Into the Larger Scope of the TRFR Program?

Many of the comments received on the first two drafts of the Concept Paper and the public workshops related to the scope of the pilot projects or the TRFR Program more broadly. For example, there were numerous comments suggesting that the pilot projects address a broader scope to more fully embrace matters such as ecological performance measures, large-scale watershed assessments, or development of major new approaches to cumulative effects assessment. Other comments sought greater clarity on how the pilot projects relate to the definition and development of ecological performance measures.

As described above, the scope of the planning watershed pilots is intentionally limited in order to take a detailed look at a limited set of specific issues on a small enough piece of ground that a deep level of understanding can be constructed. Figure 2 attempts to conceptually place the planning watershed pilots in a larger assessment and policy context. The intent here is to show how the planning watershed pilots fit in with other work that is being done by the TRFR Program or others. Figure 2 is intended as a

conceptual piece on levels of environmental performance measurement and is not intended to be rigorous in terms of scales or hierarchies of analysis, administrative or legal processes, or policies.

Figure 2 places individual timber harvesting plans (a process managed by the State review team agencies) at the bottom of the figure, building up toward larger-scale, more general environmental performance measures at the top (the California Environmental Goals and Policy Report, which is developed by the Governor's Office of Planning and Research). In between are the process for studying the effectiveness of the Forest Practice Rules (led by the Board of Forestry and Fire Protection's Effectiveness Monitoring Committee); small scale assessments to ecoregion or watershed assessments (where the planning watershed pilots fall; with the TRFR Program the lead); broad sectorial plans or assessments such as the State Wildlife Action Plan (Department of Fish and Wildlife), Forest and Range Assessment (CAL FIRE); and high-level sustainability indicators, such as those developed by the California Biodiversity Council. The heavy, bi-directional arrows emphasize the importance of information and analytical connectivity across the scales of hierarchies of analysis or policy. The heavy dotted line indicates levels or scales of analysis that encompass ecosystem functions; hence these scales are where ecosystem performance potentially can be measured or evaluated. The overall zone of concern for the TRFR Program is defined by the heavy dashed line.

The shaded bubble in Figure 2 is indicative of the primary scope of ecological performance measures that TRFR Program Ecological Performance Measures Working Group will be addressing. The Data and Monitoring Working Group will be addressing environmental data and monitoring across the scope represented by the "zone of concern for TRFR Program" in Figure 2, as well as examining how linkages can be made with the higher levels shown in the figure. While development of ecological performance measures is not an explicit component of the pilot project, we anticipate that what we learn from the pilot project will help the Ecological Performance Measures Working Group in their work. For example, the substantive areas and critical questions of the pilot projects will look at issues of data availability and gaps, and at what are appropriate scales for analysis.

References

Battle Creek Task Force. 2011. A rapid assessment of sediment delivery from clearcut timber harvest activities in the Battle Creek Watershed, Shasta and Tehama Counties, California. Final report prepared for the California Resources Agency by the Department of Forestry and Fire Protection, Department of Fish and Wildlife, State and Regional Water Quality Control Boards, and the California Geological Survey of the Department of Conservation. Sacramento, CA. 59 p.

Beechie, T., and S. Bolton. 1999. An approach to restoring salmonid habitat-forming processes in Pacific Northwest watersheds. Fisheries. *24*(4): 6-15.

Beechie, T., G. Pess, P. Roni, and G. Giannico. 2008. Setting river restoration priorities: a review of approaches and a general protocol for identifying and prioritizing actions. North American Journal of Fisheries Management. *28*(3): 891-905.

Beechie, T. J., D.A. Sear, J.D. Olden, G.R. Pess, J.M. Buffington, H. Moir, P. Roni, and M.M. Pollock. 2010. Process-based principles for restoring river ecosystems. BioScience. *60*(3): 209-222.

Benda, L., D. Miller, K. Andras, P. Bigelow, G. Reeves, and D. Michael. 2007. NetMap: a new tool in support of watershed science and resource management. Forest Science, *53*(2): 206-219.

California Department of Fish and Wildlife. 2004. Recovery Strategy for California Coho Salmon. Species Recovery Strategy 2004-1. February 2004. Prepared for California Fish and Game Commission. Sacramento, CA. 594 p.

Flosi, G., Downie, S., Hopelain, J., Bird, M., Coey, R., Collins, B. 2010. California Salmonid Stream Habitat Restoration Manual. 4th ed. State of California. The Resources Agency, California Department of Fish and Game Wildlife Fisheries Division.

Longstreth, D., A. Lukacic, J. Croteau, A. Wilson, D. Hall, P. Cafferata, and S. Cunningham. 2008. Interagency Mitigation Monitoring Program pilot project final report. California Resources Agency, California Environmental Protection Agency, Central Valley Regional Water Quality Control Board, North Coast Regional Water Quality Control Board, California Department of Fish and Game, California Department of Forestry and Fire Protection, California Geological Survey. Sacramento, CA. 38 p. plus Appendices.

MacDonald, L. H. 2000. Evaluating and managing cumulative effects: process and constraints. Environmental management. *26*(3): 299-315.

MacDonald, L. H., D.B. Coe, and S.E. Litschert. 2004. Assessing cumulative watershed effects in the central Sierra Nevada: hillslope measurements and catchment-scale modeling. pp 149-157. In: Murphy, D. D. and P. A. Stine, Editors. 2004. Proceedings of the Sierra Nevada Science Symposium; 2002 October 7-10; Kings Beach, CA; Gen. Tech. Rep. PSW_GTR-193. Albany, CA. Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture; 287 p.

NMFS (National Marine Fisheries Service). 2012. Final recovery plan for central California coast coho salmon Evolutionary Significant Unit. National Marine Fisheries Service, Southwest Region. Santa Rosa, CA.

Palmer, M., J.D. Allan, J. Meyer, E.S. Bernhardt. 2007. River restoration in the twenty-first century: Data and experiential knowledge to inform future efforts. Restoration Ecology Vol. *15(3)*: 472–481.

State Water Resources Control Board (SWRCB). 1987. Final report of the Forest Practice Rules assessment team to the State Water Resources Control Board (the “208 Report”). Sacramento, CA. 200 p.

Table 1. Subset of Criteria for Selection of the Initial Planning Watershed Pilot Project.

Calwater 2.2 Classification					*Timber Harvesting 1997-2015*			*Primary Timberland Owners*
Hydrologic Area	**Hydrologic Sub Area**	**PWS Name**	**PWS Number**	**PWS Acres**	**THP Acres Approved for Harvesting 1997-2015**	**# of THPs 1997-2015**	**% of PWS (includes re-entry)**	
Van Duzen	Bridgeville	Stevens Creek	1111.220603	4,963	2,848.7	37	57.4%	Green Diamond Industries, Humboldt Redwood Co, Sierra Pacific Industries
Rockport	Usal Creek	Upper Usal Creek	1113.110102	10,611	1,681.5	15	15.8%	Redwood Forest Foundation Inc.
Rockport	Ten Mile	Booth Gulch	1113.130201	3,260	2,683.4	23	82.3%	Lyme Redwood Company
Rockport	Ten Mile	Campbell Creek	1113.130303	7,904	4,291.4	29	54.3%	Lyme Redwood Company
Rockport	Ten Mile	Upper South Fork Ten Mile River	1113.130304	5,239	3,900.5	34	74.5%	Lyme Redwood Company
Big River	Big River	Two Log Creek	1113.300406	11,432	8,180.1	59	71.6%	Mendocino Redwood Co, Conservation Fund, Jackson Demonstration State Forest, Soper
Albion River	Albion River	Middle Albion River	1113.400001	4,878	3,629.6	33	74.4%	Mendocino Redwood Co
Albion River	Albion River	Upper Albion River	1113.400006	8,739	3,213.9	45	36.8%	Mendocino Redwood Co, Soper, Conservation Fund, Small Landowners
Gualala River	North Fork	Robinson Creek	1113.810002	8,793	2,607.4	23	29.7%	Gualala Redwood Timber, Conservation Fund
Gualala River	Rockpile Creek	Lower Rockpile Creek	1113.820003	2947	471.9	6	16.0%	Gualala Redwood Timber

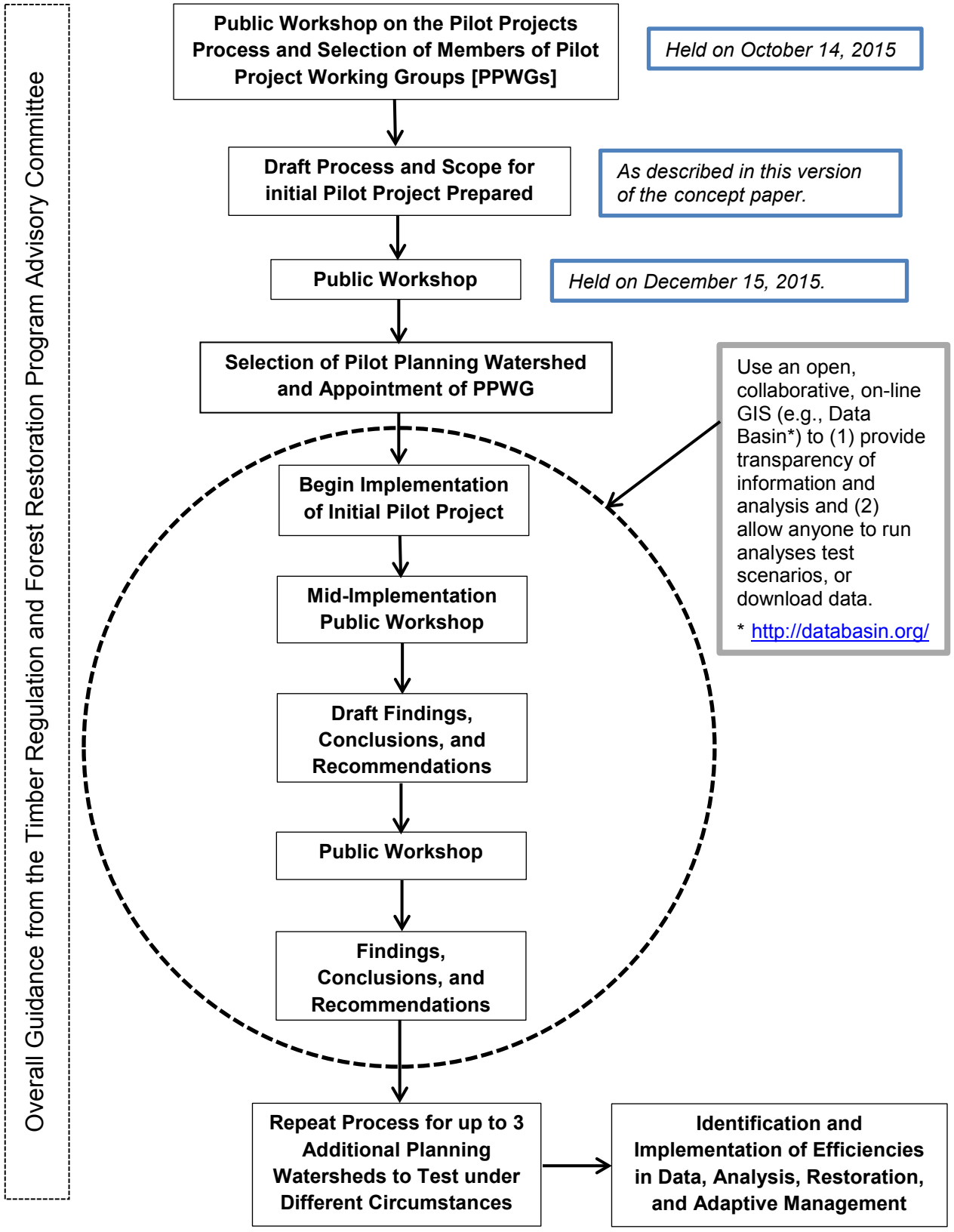

Figure 1. Flow Chart for Pilot Projects Process.

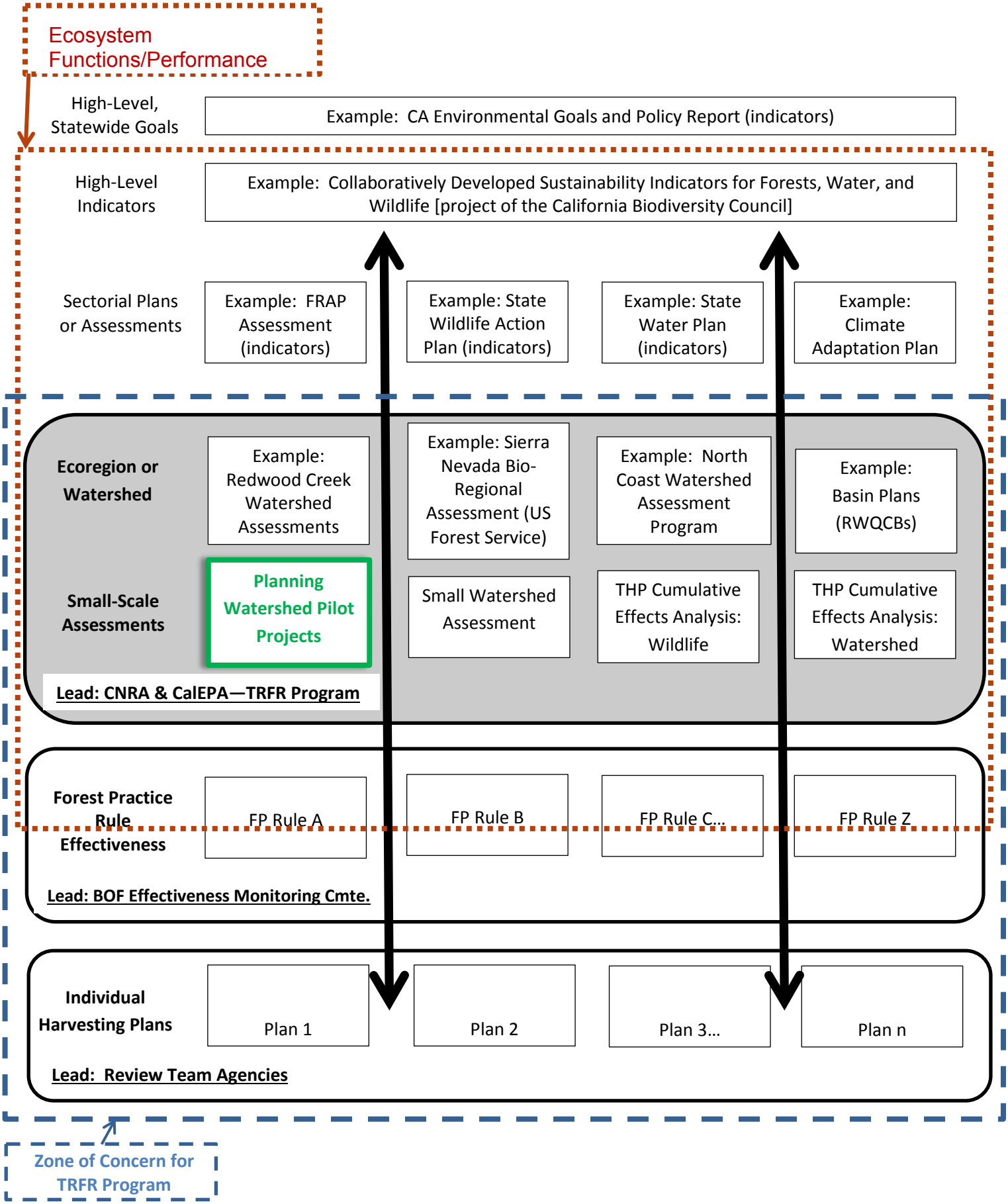

Figure 2. Conceptualizing Levels of Environmental Performance Measurement for AB 1492.