NPLCC

Science and TEK Subcommittee

January 10, 2013

The Implementation Plan:

Development of Recommendations for the Steering Committee

Hemlock Boughs Taken at the Opal Creek Wilderness, Willamette National Forest.
photo credit: David Patte/USFWS

Plan for the day

- **Morning: Focus on the overall Implementation Plan**
  - Brief **recap** of progress to date
  - Review **action scoring results** based on identified topics and their value for natural resource management decisions
  - Consider a **four-year planning horizon** consistent with the S-TEK Strategy
- **Afternoon: Develop recommendations for FY13 / FY14 NPLCC funding priorities**
  - Identify **what actions** to recommend to the SC for NPLCC implementation, based rankings resulting from the scoring exercise
  - Identify **how to implement those actions**, e.g. RFPs, directed funding, partners leveraging, etc.

Recap: S-TEK Strategy is our starting point

Strategy for Science and Traditional Ecological Knowledge, 2013-2016: Adopted by SC in November, 2012

Guiding Principles

- Focus availability and effectiveness of climate change adaptation and mitigation response actions
- Focus facilitating coordination, collaboration, capacity building, and developing or assisting with tools for decision-makers
- Identify and promote opportunities use TEK
- Promote and facilitate consideration of connections and interactions between ecosystems

Priority Topics

A. Effects of hydrologic regime shifts on rivers, streams, and riparian corridors

B. Effects of change in air temperature and precipitation on Forests

C. Effects of changes in sea levels and storms on marine shorelines, the nearshore and estuaries

D. Effects of the changes in the hydrologic regime on anadromous fish

E. Invasive species, diseases, pests and their effects on biological communities

Potential topics and scoring process

- **List of potential topics compiled, based on:**
  - S-TEK Strategy broad guidance
  - Topics from many previous workshops and focus groups corresponding to Strategy priorities
- **Scoring tool developed:**
  - Spreadsheet tool incorporated potential topics for S-TEK voting
  - Scoring incorporated both what the NP LCC could implement, as well as complementary actions by partners

Process presented to SC on December 5th

- **Presented the Implementation Plan development process:**
  - Overall process and schedule proposed by S-TEK
  - How we compiled the list of potential topics
  - How we propose to score/rank the topics to develop recommended implementation actions
- **SC had questions about:**
  - Whether the S-TEK membership provided broad enough representation for this exercise—particularly from Tribes
  - Opportunities to refine or update recommendations
- **After discussion: S-TEK Received full vote of confidence from SC to proceed with the process**
  - SC members were also invited to participate in the "scoring" exercise to broaden participation

Full speed ahead for implementation planning

- **Full SC endorsement of proposed S-TEK process**
  - SC asked S-TEK to present Implementation Plan recommendations at their February meeting
- **Scoring tool distributed**
  - 18 members assign scores
  - THANK YOU!
- **Results tallied:**
  - Scores compiled and sensitivity analyses applied
  - Topic rankings developed based on results
- **Now: how to we use the results?**
  - Discussion and development of implementation actions based on this progress to date

Framing the Implementation Plan

- **The purposes of the Implementation Plan are:**
  - identify specific **NPLCC actions** for implementation in the upcoming year (or more)
  - identify potential **partner interests/actions** that could enhance coordination with Partner entities through their planning processes
- **Practical timing**
  - Actions not confined to a single year; some may take longer or may need to coordinate with partner schedules for best continuity
  - Input to the NW CSC needed for FY14 planning process underway now
  - Expressed desire to "get ahead" of the planning/budgeting process by planning FY14 NPLCC activities beginning summer, 2013

Framing the Implementation Plan

- **So the Plan will identify:**
  - **What to implement**: actions framed by Guiding Principles and Priority Topics as the most valuable for management decisions
  - **What to fund now**: actions to be funded by the NPLCC in FY13
  - **What to address in the future**: initial indication of FY14 actions in coordination with partners activities
- **Annual planning cycle will continually revise Implementation Plan**
  - Establish the annual planning cycle to update the plan each summer for the subsequent funding year
  - Account for the results of previously funded work to clarify each year's priorities
  - Continue to anticipate implementation beyond a single year forward

Implementation Plan process & schedule

Based on Strategy, identify potential actions
(1) generic across Topics
(2) If necessary, Topic-specific

Completed

Review results of Priority Scoring for insights on urgency and importance of different types of actions

S-TEK Subcommittee ranks/scores:

a) The benefit of each potential action for each Topic

b) Identify if NPLCC or another entity is best suited to pursue the action

Completed January 8

S-TEK reviews evaluation results (Topic/Action matrix) and develops recommendations

January 10 Face-to-Face

Draft FY13 Implementation Plan presented to Steering Committee for consideration

February 4 Meeting Packet

Reminder: Ranking potential actions

- **Key factor is the value of the potential action for natural resource management decisions**
- **The same type of action may have different value for each of the Priority Topics**
  - Evaluated the list separately for each topic
- **Goal of the implementation plan is to identify useful actions for "anyone" to undertake that will benefit the partnership**
- **Goal is ALSO to identify activities for FY13 NPLCC funds (and perhaps for FY14 funds)**
  - Evaluated the list twice, once for NPLCC action and once for Partner action
  - So you

S-TEK Overall Response

- **18 responses received (thank you!)**
- **Good general agreement emerged between:**
  - "Unweighted votes" (the number of respondents allocating at least one vote to and activity)
  - Weighted votes (total points allocated)
- **For each Priority Topic, almost all activities received at least one point**
  - Suggests that work within any of these activity areas on any of the five Topics would be useful – consistent with the emphasis of the Strategy
- **Distinct areas of emphasis emerged for NPLCC direct-funding and NPLCC Partner activities**

Unweighted v. weighted scores – NPLCC actions

Activty Code	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Hydrol. Regime shifts & effects of rivers, streams, riparian corridors	11	11	2	7	10	8	9	6	7	2	6	7	8	8	3	5	6	2	11	1	1	7						
	17	15	4	11	14	11	15	12	9	3	13	9	14	13	3	8	11	2	13	3	3	13						
Climate effects on forest ecosystems	11	8	1	5	12	8	8	5	6	5	5	8	8	6	1	7	2	2	7	1	4		5	6				
	18	11	2	7	17	11	15	9	10	6	11	13	13	10	1	14	4	2	9	3	7		9	8				
Sea level rise and coastal storms	10	13	3	5	10	6	3	7	7	4	5	8	11	8	1	5	1	2	9	1	1							
	16	24	4	7	14	10	6	14	14	8	13	12	19	14	1	8	2	3	12	2	1							
Hydrol. regime & effects on anadromous fish	11	10	6	5	10	6	5	8	5	5	5	6	10	6	1	4	3	1	8	1	1				9			
	18	15	9	7	14	9	10	14	6	12	10	8	17	10	1	6	6	1	11	1	3				16			
Invasive species, diseases, and pests	9	9	2	6	12	7	3	6	6	2	5	7	11	8	0	4	3	3	7	1	2					8	0	3
	16	16	3	8	18	10	6	11	9	3	7	10	20	13	0	6	5	6	10	4	3					15	0	5

Unweighted v. weighted scores – Partner actions

Activty Code	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21		22	23	24	25	26	27	28
Hydrol. Regime shifts & effects of rivers, streams, riparian corridors	4	7	5	5	6	6	4	6	5	6	8	4	6	4	2	4	8	5	3	9	5		7						
	7	14	10	5	12	10	5	9	8	8	11	7	8	7	4	4	14	8	3	17	8		13						
Climate effects on forest ecosystems	4	6	6	1	6	11	5	5	4	2	8	3	5	3	1	8	9	2	2	10	6			9	6				
	9	10	11	1	8	16	7	8	6	2	13	4	7	7	2	17	15	4	3	17	11			16	6				
Sea level rise and coastal storms	5	5	2	2	6	7	6	11	7	2	5	2	6	5	1	4	8	4	3	7	3								
	11	10	2	2	10	11	8	24	12	3	10	3	11	11	2	7	18	6	3	17	7								
Hydrol. regime & effects on anadromous fish	6	7	3	1	6	5	5	8	4	6	6	2	5	5	1	4	8	1	3	10	5					5			
	11	13	4	1	12	12	8	17	6	11	10	3	7	10	2	5	16	2	4	19	8					9			
Invasive species, diseases, and pests	4	8	4	1	4	5	3	5	4	2	6	2	5	5	1	3	7	4	4	7	5						9	5	4
	7	17	7	2	5	10	4	12	7	3	10	3	7	9	2	3	13	11	5	11	8						18	8	7

Portfolio view: Activities x Topics, NPLCC Action

(1) Improve cross-boundary data availability, integration and synthesis

(2) Identify, compile, collate and integrate existing data and information… make that information available

(5) Identify existing tools and approaches being used to support decision-making… develop guidance for future tool/support development; provide

(13) Conduct workshops to further clarify decision-maker needs

	NPLCC Action - Total points				
	A	B	C	D	E
Activity code	Hydrol. Regime shifts & effects of rivers, streams, riparian corridors	Climate effects on forest ecosystems	Sea level rise and coastal storms	Hydrol. regime & effects on anadromous fish	Invasive species, diseases, and pests
1	17	18	16	18	16
2	15	11	24	15	16
3	4	2	4	9	3
4	11	7	7	7	8
5	14	17	14	14	18
6	11	11	10	9	10
7	15	15	6	10	6
8	12	9	14	14	11
9	9	10	14	6	9
10	3	6	8	12	3
11	13	11	13	10	7
12	9	13	12	8	10
13	14	13	19	17	20
14	13	10	14	10	13
15	3	1	1	1	0
16	8	14	8	6	6
17	11	4	2	6	5
18	2	2	3	1	6
19	13	9	12	11	10
20	3	3	2	1	4
21	3	7	1	3	3

Portfolio view: Activities x Topics, Partner Action

	Partner action - Total points				
	A	B	C	D	E
	Hydrol. Regime shifts & effects of rivers, streams, riparian corridors	Climate effects on forest ecosystems	Sea level rise and coastal storms	Hydrol. regime & effects on anadromous fish	Invasive species, diseases, and pests
1	7	9	11	11	7
2	14	10	12	13	17
3	10	11	2	4	7
4	5	1	2	1	2
5	12	8	10	12	5
6	10	16	11	12	10
7	5	7	8	8	4
8	9	12	24	21	15
9	8	6	12	6	7
10	8	2	6	11	3
11	15	15	13	11	13
12	7	4	3	3	3
13	8	7	11	7	7
14	7	7	11	10	9
15	4	2	2	2	2
16	8	21	11	8	6
17	16	17	18	16	13
18	8	4	6	2	11
19	3	3	3	4	5
20	17	17	17	19	11
21	8	11	7	8	8

(17) Collect data to improve basic understanding…

(20) Develop downscaled / improved climate models and forecasts of changes in the resources, at appropriate scales

Portfolio view: Activities x Topics, Any Action

(6) Identify and document tangible examples of climate change adaptation or mitigation response actions…develop "best practices" guidance

(8) Assess vulnerability and resilience of the resource(s) to projected climate change… the effects of multiple stressors on the resource(s)…

(11) Identify focal indicators, processes or thresholds that can serve as indicators of change…

	Total points				
	A	B	C	D	E
	Hydrol. Regime shifts & effects of rivers, streams, riparian corridors	Climate effects on forest ecosystems	Sea level rise and coastal storms	Hydrol. regime & effects on anadromous fish	Invasive species, diseases, and pests
1	24	27	27	29	23
2	29	21	36	28	33
3	14	13	6	13	10
4	16	8	9	8	10
5	26	25	24	26	23
6	21	27	21	21	20
7	20	22	14	18	10
8	21	21	38	35	26
9	17	16	26	12	16
10	11	8	14	23	6
11	28	26	26	21	20
12	16	17	15	11	13
13	22	20	30	24	27
14	20	17	25	20	22
15	7	3	3	3	2
16	16	35	19	14	12
17	27	21	20	22	18
18	10	6	9	3	17
19	16	12	15	15	15
20	20	20	19	20	15
21	11	18	8	11	11

General conclusions & Implications (1)

- **2-4 types of activities identified as high priority for NPLCC Action across all Topics**
- **Two types of activities identified as high priority for Partner Action across all Topics**
- **Several types of activities had high "combined" scores while not scoring particularly high for either NPLCC or Partner action**
- **Implications?**
  - Consider whether it is possible to define an activity that adequately and appropriately applies to all the Topics
    - ***Staged implementation?***
  - Consider how to emphasize the preferred "actor" in writing/describing the Implementation Plan
  - Look for joint funding or leveraging opportunities for activities with "joint" responsibilities

General conclusions & Implications (2)

- **Priorities are not uniform across Topics. For example:**
  - Assess vulnerability and resilience of the resource(s) to projected climate change
    - ***Important for Topic C and Topic D***
  - Identify and document tangible examples of climate change adaptation or mitigation response actions…
    - ***Important for Topic B (Climate effects of Forest Ecosystems):***
  - Improve information on how climate change will affect linkages between ecological and human resources…
    - ***Important for Topic B (Climate effects of Forest Ecosystems):***
  - Identify how restoration activities in systems related to this Priority Topic can/should be modified to account for climate-related changes
    - ***Important for Topic D***
- **Implications (?):**
  - Include topic-by-topic identification and description of priority activities
  - Consider "portfolio balance" in the Implementation Plan

General conclusions & Implications (3)

- **Several topic-specific activities were also identified as high priority, more for Partner action than for NPLCC Action**
  - Will review these in the topic-by-topic discussions
- **Implications**
  - Topic-by-topic review and identification of activities for the implementation plan
  - Consider how to make recommendations in the Implementation plan for activities to be undertaken by others
    - ***Level of specificity?***

Next steps…

- **Goal: Identify Topic/Activity recommendations for the Implementation Plan**
  - Four-year "look"
  - Activities that will help resource managers in each of the five Priority Topic areas
    - ***With an indication of the subset of activities the NPLCC is uniquely suited to undertake or support***
- **Process:**
  - Topic-by-topic review and discussion
  - Review of the full portfolio

Topic A details

		Priority Topic A: Hydrol. Regime shifts & effects of rivers, streams, riparian corridors		
		Total	NPLCC action	Partner action
Applicable to all Priority Topic(s):	**Activity code**			
Identify, compile, collate and integrate existing data and information	2	29	15	14
Evaluate relationships between existing infrastructure and infrastructure planning and projected changes in the hydrological regime	22	28	13	15
Identify focal indicators, processes or thresholds that can serve as indicators of change	11	28	13	15
Collect data to improve basic understanding, to provide baseline information, to provide a basis for long-term monitoring, to support modeling, etc.	17	27	11	16
Identify existing tools and approaches being used to support decision-making; develop guidance for future tool/support development; provide training	5	26	14	12
Improve cross-boundary data availability, integration and synthesis	1	24	17	7
Conduct workshops to further clarify decision-maker needs:	13	22	14	8
Identify and document tangible examples of climate change adaptation or mitigation response actions; develop "best practices" guidance document	6	21	11	10
Assess vulnerability and resilience of the resource(s) to projected climate change	8	21	12	9
Develop downscaled / improved climate models	20	20	3	17
Conduct or support stakeholder outreach workshops and meetings	14	20	13	7
Develop case studies to enhance practicality and utility of existing tools / previous studies through direct engagement of decision-makers	7	20	15	5
Develop tools and/or assist partner entities in applying existing tools to identify and inform managers of high priority conservation and/or restoration targets (species, locations, etc.).	9	17	9	8
Improve information on how climate change will affect linkages between ecological and human resources	16	16	8	8
Conduct or support adaptation planning exercises	12	16	9	7
Develop a data portal or “climate clearinghouse”	4	16	11	5
Coordinate and share results of ongoing and future data collection activities	19	16	13	3
Evaluate existing datasets, models, and TEK (as appropriate) for climate relevance	3	14	4	10
Identify how restoration activities in systems related to this Priority Topic can/should be modified to	10	11	3	8
Develop specialty climate / Topic models	21	11	3	8
Develop standard quality assurance and quality control measures, other protocols, and data stewardship guidance	18	10	2	8
Develop "report card" type tracking and reporting tools	15	7	3	4

Applicable to all Priority Topic(s):	Activity code	Total	NPLCC action	Partner action
Identify, compile, collate and integrate existing data and information	2	29	15	14
Evaluate relationships between existing infrastructure and infrastructure planning and projected changes in the hydrological regime	22	28	13	15
Identify focal indicators, processes or thresholds that can serve as indicators of change	11	28	13	15
Collect data to improve basic understanding, to provide baseline information, to provide a basis for long-term monitoring, to support modeling, etc.	17	27	11	16
Identify existing tools and approaches being used to support decision-making; develop guidance for future tool/support development; provide training	5	26	14	12
Improve cross-boundary data availability, integration and synthesis	1	24	17	7
Develop downscaled / improved climate models	20	20	3	17
Conduct or support stakeholder outreach workshops and meetings	14	20	13	7
Develop case studies to enhance practicality and utility of existing tools / previous studies through direct engagement of decision-makers	7	20	15	5
Coordinate and share results of ongoing and future data collection activities	19	16	13	3

Topic B details

		Priority Topic B: Climate effects on forest ecosystems		
		Total	NPLCC action	Partner action
Applicable to all Priority Topic(s):	**Activity code**			
Improve information on how climate change will affect linkages between ecological and human resources (e.g., forest-riparian-stream habitat connections)	16	35	14	21
Identify and document tangible examples of climate change adaptation or mitigation response actions; develop "best practices" guidance document	6	27	11	16
Improve cross-boundary data availability, integration and synthesis	1	27	18	9
Identify focal indicators, processes or thresholds that can serve as indicators of change	11	26	11	15
Carry out fire regime / fire management research	23	25	9	16
Identify existing tools and approaches being used to support decision-making; develop guidance for future tool/support development; provide training	5	25	17	8
Develop case studies to enhance practicality and utility of existing tools / previous studies through direct engagement of decision-makers	7	22	15	7
Collect data to improve basic understanding, to provide baseline information, to provide a basis for long-term monitoring, to support modeling, etc.	17	21	4	17
Assess vulnerability and resilience of the resource(s) to projected climate change	8	21	9	12
Identify, compile, collate and integrate existing data and information	2	21	11	10
Develop downscaled / improved climate models	20	20	3	17
Conduct workshops to further clarify decision-maker needs:	13	20	13	7
Develop specialty climate / Topic models	21	18	7	11
Conduct or support stakeholder outreach workshops and meetings	14	17	10	7
Conduct or support adaptation planning exercises	12	17	13	4
Develop tools and/or assist partner entities in applying existing tools to identify and inform managers of high priority conservation and/or restoration targets (species, locations, etc.).	9	16	10	6
Develop strategies for forest harvest and forest regeneration after cutting (modifications to current practices to take into account climate change impacts)	24	14	8	6
Evaluate existing datasets, models, and TEK (as appropriate) for climate relevance	3	13	2	11
Coordinate and share results of ongoing and future data collection activities	19	12	9	3
Identify how restoration activities in systems related to this Priority Topic can/should be modified to account for climate-related changes	10	8	6	2
Develop a data portal or “climate clearinghouse”	4	8	7	1
Develop standard quality assurance and quality control measures, other protocols, and data stewardship guidance	18	6	2	4
Develop "report card" type tracking and reporting tools	15	3	1	2

		Total	NPLCC action	Partner action
Applicable to all Priority Topic(s):	**Activity code**			
Improve information on how climate change will affect linkages between ecological and human resources (e.g., forest-riparian-stream habitat connections)	16	35	14	21
Identify and document tangible examples of climate change adaptation or mitigation response actions; develop "best practices" guidance document	6	27	11	16
Improve cross-boundary data availability, integration and synthesis	1	27	18	9
Identify focal indicators, processes or thresholds that can serve as indicators of change	11	26	11	15
Carry out fire regime / fire management research	23	25	9	16
Identify existing tools and approaches being used to support decision-making; develop guidance for future tool/support development; provide training	5	25	17	8
Develop case studies to enhance practicality and utility of existing tools / previous studies through direct engagement of decision-makers	7	22	15	7
Collect data to improve basic understanding, to provide baseline information, to provide a basis for long-term monitoring, to support modeling, etc.	17	21	4	17
Develop downscaled / improved climate models	20	20	3	17
Conduct workshops to further clarify decision-maker needs:	13	20	13	7
Conduct or support adaptation planning exercises	12	17	13	4

Topic C details

		Priority Topic C: Sea level rise and coastal storms		
		Total	NPLCC action	Partner action
Applicable to all Priority Topic(s):	**Activity code**			
Assess vulnerability and resilience of the resource(s) to projected climate change	8	38	14	24
Identify, compile, collate and integrate existing data and information	2	36	24	12
Conduct workshops to further clarify decision-maker needs:	13	30	19	11
Improve cross-boundary data availability, integration and synthesis	1	27	16	11
Develop tools and/or assist partner entities in applying existing tools to identify and inform managers of high priority conservation and/or restoration targets (species, locations, etc.).	9	26	14	12
Identify focal indicators, processes or thresholds that can serve as indicators of change	11	26	13	13
Conduct or support stakeholder outreach workshops and meetings	14	25	14	11
Identify existing tools and approaches being used to support decision-making; develop guidance for future tool/support development; provide training	5	24	14	10
Identify and document tangible examples of climate change adaptation or mitigation response actions; develop "best practices" guidance document	6	21	10	11
Collect data to improve basic understanding, to provide baseline information, to provide a basis for long-term monitoring, to support modeling, etc.	17	20	2	18
Develop downscaled / improved climate models	20	19	2	17
Improve information on how climate change will affect linkages between ecological and human resources (e.g., forest-riparian-stream habitat connections)	16	19	8	11
Conduct or support adaptation planning exercises	12	15	12	3
Coordinate and share results of ongoing and future data collection activities	19	15	12	3
Develop case studies to enhance practicality and utility of existing tools / previous studies through direct engagement of decision-makers	7	14	6	8
Identify how restoration activities in systems related to this Priority Topic can/should be modified to account for climate-related changes	10	14	8	6
Develop standard quality assurance and quality control measures, other protocols, and data stewardship guidance	18	9	3	6
Develop a data portal or “climate clearinghouse”	4	9	7	2
Develop specialty climate / Topic models	21	8	1	7
Evaluate existing datasets, models, and TEK (as appropriate) for climate relevance	3	6	4	2
Develop "report card" type tracking and reporting tools	15	3	1	2

		Total	NPLCC action	Partner action
Applicable to all Priority Topic(s):	**Activity code**			
Assess vulnerability and resilience of the resource(s) to projected climate change	8	38	14	24
Identify, compile, collate and integrate existing data and information	2	36	24	12
Conduct workshops to further clarify decision-maker needs:	13	30	19	11
Improve cross-boundary data availability, integration and synthesis	1	27	16	11
Develop tools and/or assist partner entities in applying existing tools to identify and inform managers of high priority conservation and/or restoration targets (species, locations, etc.).	9	26	14	12
Identify focal indicators, processes or thresholds that can serve as indicators of change	11	26	13	13
Conduct or support stakeholder outreach workshops and meetings	14	25	14	11
Identify existing tools and approaches being used to support decision-making; develop guidance for future tool/support development; provide training	5	24	14	10
Collect data to improve basic understanding, to provide baseline information, to provide a basis for long-term monitoring, to support modeling, etc.	17	20	2	18
Develop downscaled / improved climate models	20	19	2	17

Topic D details

		Priority Topic D: Hydrol. regime & effects on anadromous fish		
		Total	NPLCC action	Partner action
Applicable to all Priority Topic(s):	**Activity code**			
Assess vulnerability and resilience of the resource(s) to projected climate change	8	35	14	21
Improve cross-boundary data availability, integration and synthesis	1	29	18	11
Identify potential impacts or changes to tribal/First Nations subsistence activities linked with hydrological regime changes	25	29	16	13
Identify, compile, collate and integrate existing data and information	2	28	15	13
Identify existing tools and approaches being used to support decision-making; develop guidance for future tool/support development; provide training	5	26	14	12
Conduct workshops to further clarify decision-maker needs:	13	24	17	7
Identify how restoration activities in systems related to this Priority Topic can/should be modified to account for climate-related changes	10	23	12	11
Collect data to improve basic understanding, to provide baseline information, to provide a basis for long-term monitoring, to support modeling, etc.	17	22	6	16
Identify and document tangible examples of climate change adaptation or mitigation response actions; develop "best practices" guidance document	6	21	9	12
Identify focal indicators, processes or thresholds that can serve as indicators of change	11	21	10	11
Conduct or support stakeholder outreach workshops and meetings	14	20	10	10
Develop downscaled / improved climate models	20	20	1	19
Develop case studies to enhance practicality and utility of existing tools / previous studies through direct engagement of decision-makers	7	18	10	8
Coordinate and share results of ongoing and future data collection activities	19	15	11	4
Improve information on how climate change will affect linkages between ecological and human resources (e.g., forest-riparian-stream habitat connections)	16	14	6	8
Evaluate existing datasets, models, and TEK (as appropriate) for climate relevance	3	13	9	4
Develop tools and/or assist partner entities in applying existing tools to identify and inform managers of high priority conservation and/or restoration targets (species, locations, etc.).	9	12	6	6
Conduct or support adaptation planning exercises	12	11	8	3
Develop specialty climate / Topic models	21	11	3	8
Develop a data portal or “climate clearinghouse”	4	8	7	1
Develop "report card" type tracking and reporting tools	15	3	1	2
Develop standard quality assurance and quality control measures, other protocols, and data stewardship guidance	18	3	1	2

		Total	NPLCC action	Partner action
Applicable to all Priority Topic(s):	**Activity code**			
Assess vulnerability and resilience of the resource(s) to projected climate change	8	35	14	21
Improve cross-boundary data availability, integration and synthesis	1	29	18	11
Identify potential impacts or changes to tribal/First Nations subsistence activities linked with hydrological regime changes	25	29	16	13
Identify, compile, collate and integrate existing data and information	2	28	15	13
Identify existing tools and approaches being used to support decision-making; develop guidance for future tool/support development; provide training	5	26	14	12
Conduct workshops to further clarify decision-maker needs:	13	24	17	7
Collect data to improve basic understanding, to provide baseline information, to provide a basis for long-term monitoring, to support modeling, etc.	17	22	6	16
Develop downscaled / improved climate models	20	20	1	19

Topic E details

		Priority Topic E: Invasive species, diseases, and pests		
		Total	NPLCC action	Partner action
Applicable to all Priority Topic(s):	**Activity code**			
Evaluate the interactive effects of changes in invasives, pests, and diseases with other large-scale stressors	26	36	15	21
Identify, compile, collate and integrate existing data and information	2	33	16	17
Conduct workshops to further clarify decision-maker needs:	13	27	20	7
Assess vulnerability and resilience of the resource(s) to projected climate change	8	26	11	15
Improve cross-boundary data availability, integration and synthesis	1	23	16	7
Identify existing tools and approaches being used to support decision-making; develop guidance for future tool/support development; provide training	5	23	18	5
Conduct or support stakeholder outreach workshops and meetings	14	22	13	9
Identify and document tangible examples of climate change adaptation or mitigation response actions; develop "best practices" guidance document	6	20	10	10
Identify focal indicators, processes or thresholds that can serve as indicators of change	11	20	7	13
Collect data to improve basic understanding, to provide baseline information, to provide a basis for long-term monitoring, to support modeling, etc.	17	18	5	13
Develop standard quality assurance and quality control measures, other protocols, and data stewardship guidance	18	17	6	11
Develop tools and/or assist partner entities in applying existing tools to identify and inform managers of high priority conservation and/or restoration targets (species, locations, etc.).	9	16	9	7
Develop downscaled / improved climate models	20	15	4	11
Coordinate and share results of ongoing and future data collection activities	19	15	10	5
Conduct or support adaptation planning exercises	12	13	10	3
Develop research partnerships to study fish and bird disease	28	12	5	7
Improve information on how climate change will affect linkages between ecological and human resources (e.g., forest-riparian-stream habitat connections)	16	12	6	6
Develop specialty climate / Topic models	21	11	3	8
Evaluate existing datasets, models, and TEK (as appropriate) for climate relevance	3	10	3	7
Develop case studies to enhance practicality and utility of existing tools / previous studies through direct engagement of decision-makers	7	10	6	4
Develop a data portal or “climate clearinghouse”	4	10	8	2
Study the genetics of species hybridization	27	8	0	8
Identify how restoration activities in systems related to this Priority Topic can/should be modified to account for climate-related changes	10	6	3	3
Develop "report card" type tracking and reporting tools	15	2	0	2

Applicable to all Priority Topic(s):	Activity code	Total	NPLCC action	Partner action
Evaluate the interactive effects of changes in invasives, pests, and diseases with other large-scale stressors	26	36	15	21
Identify, compile, collate and integrate existing data and information	2	33	16	17
Conduct workshops to further clarify decision-maker needs:	13	27	20	7
Assess vulnerability and resilience of the resource(s) to projected climate change	8	26	11	15
Improve cross-boundary data availability, integration and synthesis	1	23	16	7
Identify existing tools and approaches being used to support decision-making; develop guidance for future tool/support development; provide training	5	23	18	5
Identify focal indicators, processes or thresholds that can serve as indicators of change	11	20	7	13
Collect data to improve basic understanding, to provide baseline information, to provide a basis for long-term monitoring, to support modeling, etc.	17	18	5	13

NPLCC Resources and Opportunities

- **FY 13 NPLCC Funding (USFWS)**
  - Estimate $350K - $500K for Science/TEK Strategy implementation
  - All FY 11 and 12 projects fully funded no additional commitments expected
  - Potential to build from previously funded activities

- **FY14 NPLCC Funding (USFWS)**
  - Goal $600K - $800K for Science/TEK Strategy implementation

- **Partner Funding (FY13 and FY14)**
  - Discussions needed on complementary priority actions where funds could be combined or tasks divided

Joint NW CSC, AK CSC and NPLCC Project

- **CSC Goals for Joint Project**
  - Cross CSC boundaries (NW CSC and AK CSC)
  - Joint project with LCCs
  - Address Tribal priorities
- **Estimated available funding (*potential reductions)**
  - $100K - $200K (funding from all 3 sponsors)
  - Made available through a RFP led by the NPLCC
- **Project Focus**
  - Cross-cutting theme with 2 comparative sites (northern and southern portions of NPLCC in geographic areas both CSCs)
  - Explore/test adaption actions leading to enhanced persistence of natural/cultural resources threatened by climate change
  - Must have management application