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Tahoe Sierra IRWM Plan Scoring Criteria Memorandum – Green Technology

To: Tahoe Sierra Sub-Committee Members
From: Kevin How and Sachi Itagaki
Subject: Tahoe-Sierra IRWM Plan, Scoring Process for Green Technology Criteria
K/J 1270036.00

The purpose of this memorandum is to establish and document the process for the scoring of projects submitted for inclusion in the Tahoe Sierra Integrated Regional Management (IRWM) Plan with respect to the Green Technology criteria. In accordance with the 2012 IRWM Guidelines Climate Change criteria for project evaluation, the Green Technology criteria emphasizes adaptation to climate change and greenhouse gas emissions reduction.

The scoring relies on various data submitted in the *Tahoe Sierra IRWM Project Template (Project Template)* from each agency/organization for the various projects. A maximum of 3 points (minimum of 1 point) are awarded to each project for the Green Technology criteria. In order to provide an objective evaluation and award a score, a two tiered scoring system using the data submitted was established. Each project received an initial score based on a collection of several data fields, detailed below, from the *Project Template*; each field, if satisfied, is worth 1 point. The points are totaled to create an initial score. To ensure that scores are objective and allow discernment of relative “green” merits of the project (i.e. not every project gets the same number of points for the final Green Technology criteria), a ranking system of the initial scores was implemented to assign a final score, either 1, 2, or 3 points. The highest 18 initial scores received a final score of 3 points, the middle 18 initial scores received a final score of 2 points, and the lowest 18 initial scores received a final score of 1 point. All 54 projects were scored for this criteria per the project evaluation criteria discussed at the 26 July 2013 Sub-committee meeting.

The goal of the evaluation process was to select non-overlapping data fields from the *Project Template*, primarily the “Objectives” fields, which best represented green technology, climate change adaptation, and greenhouse gas emissions reduction topics. The following data fields from the *Project Template* are included in the initial scoring for the Green Technology criteria.

1. Objectives – WQ2: Reduce pollutant loads by implementing measures such as stormwater LID retrofits, erosion control/restoration to meet Water Quality Objectives (WQOs) for receiving water bodies established in the Basin Plan within the planning horizon.
 - a. Reduction of pollutant loads is beneficial to the natural environment and is in-line with green technology objectives. Implementation measures such as LID are considered green technology.
 - b. Scoring: If this objective is marked “Yes” then 1 point was added to the total initial score for the respective project.

2. Objectives – WQ5: Restore degraded streams, wetlands, riparian and upland areas to re-establish natural water filtering processes.

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- a. Establishing natural water filtering processes is beneficial to native species of California. In doing so, it curbs the impact of previous human development.
 - b. Scoring: If this objective is marked “Yes” then 1 point was added to the total initial score for the respective project.
3. Objectives – WS3: Implement and promote water conservation measures and practices to meet state goals.
 - a. Water conservation is a major factor in the environmental sustainability, and thus green technology.
 - b. Scoring: If this objective is marked “Yes” then 2 points was added to the total initial score for the respective project. This objective was weighted more heavily because it most closely aligns with both climate change adaptation and GHG emission reduction criteria.
4. Objectives – GWM1: Maintain and monitor groundwater supply to assure future reliability.
 - a. Groundwater is the primary source of fresh water for many cities and counties in California and the Region. Conserving this valuable resource helps prevent subsidence, maintain nearby surface water levels, among other benefits. Monitoring is increasingly important for groundwater sustainability within California.
 - b. Scoring: If this objective is marked “Yes” then 1 point was added to the total initial score for the respective project.
5. Objectives – GWM2: Promote groundwater protection activities for high quality groundwater, and advocate for improvements to impacted groundwater quality through public education.
 - a. Groundwater has a long residence time, sometimes on the order of hundreds of years or more. In this time, groundwater is filtered and “cleaned.” Development, such as wells, if not done properly can severely damage and contaminate groundwater quality quickly. Public education is a preventative measure in line with sustainability and green technology.
 - b. Scoring: If this objective is marked “Yes” then was added to the total initial score for the respective project.
6. Objectives – ER1: Enhance and restore water bodies, wetlands, riparian areas and associated uplands to support healthy watersheds, viable native fish, wildlife, and plant habitats.
 - a. Restoring or enhancing water-related areas directly and positively affects native species. This helps to undo some of the negative impacts brought on by prior human development in the area.
 - b. Scoring: If this objective is marked “Yes” then 1 point was added to the total initial score for the respective project.
7. Objectives – ER3: Implement, in coordination with public and private landowners, activities to manage forest health and wildfire risks.
 - a. Wildfires can impact water quality and air quality for an entire community including the downstream native species. In addition, wildfires destroy natural habitat for native species within the area. Controlling large wildfires and assessing their risks is vital in reducing greenhouse gas emissions and adapting to the increasingly warmer future climates.

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- b. Scoring: If this objective is marked "Yes" then 1 point was added to the total initial score for the respective project.
8. Objectives – ER4: Minimize ecosystem impacts caused by existing and new development.
 - a. Minimizing ecosystem impacts caused by human development is heavily intertwined with green technology and sustainability. Lowering human impact on the environment is a major goal of green technology.
 - b. Scoring: If this objective is marked "Yes" then 1 point was added to the total initial score for the respective project.
9. Objectives – IWM3: Increase public education and awareness of watershed functions, protection and restoration needs to encourage stewardship by the public.
 - a. Public education and awareness promote sustainability and adaptation to climate change within California. Changing temperatures put a stress on existing watersheds' functions. In order to adapt to the effects of climate change, public stewardship is increasingly important.
 - b. Scoring: If this objective is marked "Yes" then 1 point was added to the total initial score for the respective project.
10. Objectives – IWM4: Promote activities that reduce flood risk.
 - a. Flood risk has the potential to damage many communities and property. Rebuilding damaged properties will result in a larger carbon footprint. In addition, weather events such as heavy rain may become more frequent due to climate change. Reducing flood risk is a form of adaptation to climate change.
 - b. Scoring: If this objective is marked "Yes" then 1 point was added to the total initial score for the respective project.
11. Objectives – IWM5: Address climate change (e.g. water quality, water supply, groundwater recharge, flood management) in local and regional planning efforts and support efforts to continue improving the science.
 - a. Planning is important to adapting to climate change and can help maintain sustainable water supplies, reduce risk from natural disasters, among other things.
 - b. Scoring: If this objective is marked "Yes" then 1 point was added to the total initial score for the respective project.
12. Project impacts and benefits – Assist the Region in adapting to effects of climate change.
 - a. Adapting to climate change is an on-going effort, so any way that the project assists the region in adapting to its effects is beneficial for the surrounding communities and habitats
 - b. Scoring: If the project positively assists the region in adapting to the effects of climate change then 1 point was added to the total initial score for the respective project.
13. Project impacts and benefits – Generation or reduction of greenhouse gas emissions (e.g. green technology)
 - a. Greenhouse gas emissions are directly related to global warming and climate change. Reducing emissions is integral to lowering the rate of climate change and its after-effects.

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- b. Scoring: If the project positively assists the region in adapting to the effects of climate change then 1 point was added to the total initial score for the respective project.

- 14. Resource management strategies – Conjunctive Management & Groundwater
 - a. Conjunctive water management is a form of green technology that helps maintain a sustainable water supply.
 - b. Scoring: If this objective is marked “Yes” then 1 point was added to the total initial score for the respective project.

- 15. Resource management strategies – Recycled Municipal Water
 - a. Recycled municipal water, when treated to a high enough level, can be used in place of other water sources such as landscaping irrigation.
 - b. Scoring: If this objective is marked “Yes” then 1 point was added to the total initial score for the respective project.

- 16. Resource management strategies – Watershed Management
 - a. Watershed management is integral in adapting to climate change and providing a sustainable source of supply water. Watersheds provide natural filtering processes for water and habitat for native species.
 - b. Scoring: If this objective is marked “Yes” then 1 point was added to the total initial score for the respective project.

- 17. Project technical feasibility – Does the project implement green technology (e.g. alternate forms of energy, recycled materials, LID techniques, etc.)
 - a. Scoring: If this objective is marked “Yes” then 1 point was added to the total initial score for the respective project.

Attachment 2 - Green Technology Scoring

Field	Points Awarded	Max Possible Points
WQ2		1
WQ5		1
WS3		2
GWM1		1
GWM2		1
ER1		1
ER3		1
ER4		1
IWM3		1
IWM4		1
IWM5		1
Benefits/Impacts W.R.T. Adapting to the Effects of Climate Change		1
Benefits/Impacts W.R.T. generation or reduction of green house gas emissions		1
RMS Conjunctive Management & Groundwater		1
Recycled Municipal Water		1
Watershed Management		1
Does the project implement green technology		1
Total	0	18

Project #	Sub Score
1	3
2	8
3	8
4	7
5	9
6	11
7	12
8	10
9	11
10	9
11	15
12	13
13	7
14	5
15	10
16	11
17	16
18	10
19	11
20	5
21	5
22	9
23	1
24	10
25	2
26	6
27	9
28	5
29	11
30	9
31	2
32	6
33	7
34	5
35	6
36	10
37	8
38	6
39	8
40	9
41	8
42	3
43	11
44	10
45	6
46	6
47	12
48	9
49	11
50	3
51	2
52	2
53	4
54	7
55	11
56	4
57	2
58	3
59	7
60	12

Project #	Sub Score	Rank	Percent	Score
23	1	1	2%	1
25	2	2	3%	
31	2	3	5%	
51	2	4	7%	
52	2	5	8%	
57	2	6	10%	
1	3	7	12%	
42	3	8	13%	
50	3	9	15%	
58	3	10	17%	
53	4	11	18%	
56	4	12	20%	
14	5	13	22%	
20	5	14	23%	
21	5	15	25%	
28	5	16	27%	
34	5	17	28%	
26	6	18	30%	2
32	6	19	32%	
35	6	20	33%	
38	6	21	35%	
45	6	22	37%	
46	6	23	38%	
4	7	24	40%	
13	7	25	42%	
33	7	26	43%	
54	7	27	45%	
59	7	28	47%	
2	8	29	48%	
3	8	30	50%	
37	8	31	52%	
39	8	32	53%	
41	8	33	55%	
5	9	34	57%	
10	9	35	58%	
22	9	36	60%	
27	9	37	62%	
30	9	38	63%	
40	9	39	65%	
48	9	40	67%	
8	10	41	68%	3
15	10	42	70%	
18	10	43	72%	
24	10	44	73%	
36	10	45	75%	
44	10	46	77%	
6	11	47	78%	
9	11	48	80%	
16	11	49	82%	
19	11	50	83%	
29	11	51	85%	
43	11	52	87%	
49	11	53	88%	
55	11	54	90%	
7	12	55	92%	
47	12	56	93%	
60	12	57	95%	
12	13	58	97%	
11	15	59	98%	
17	16	60	100%	

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Tahoe Sierra IRWM Plan Scoring Criteria Memorandum – Relevance to State Water Plan and Other Plans

To: Tahoe Sierra Sub-Committee Members

From: Kevin How and Sachi Itagaki

Subject: Tahoe-Sierra IRWM Plan, Scoring Process for Relevance to State Water Plan and
Other Plans Criteria
K/J 1270036.00

The purpose of this memorandum is to establish and document the process for the scoring the projects submitted for inclusion in the Tahoe Sierra Integrated Regional Management (IRWM) Plan with respect to the Relevance to State Water Plan and Other Plans scoring criteria. These scoring criteria emphasize the correlation between the project and the objectives listed within the California Water Plan Update 2013 (draft).

The scoring evaluates various data submitted in the *Tahoe Sierra IRWM Project Template (Project Template)* from each agency/organization for each project. A maximum of 3 points (minimum of 1 point) are awarded to each project for the relevance to State Water Plan criteria. In order to provide an objective evaluation and award a score, a two tier scoring system was established. Each project received an initial score based on the responses provided from several data fields from the *Project Template*; each field, if satisfied, is worth 1 point. The points are totaled to create an initial score. To ensure that scores are objective and allow discernment of relative alignment with the CWP and other plans, (i.e. not every projects gets the same number of points for the Relevance to State Water Plan and Other Plans criteria), a ranking system was implemented to determine a final score, either 1, 2, or 3 points based on the initial scores. The highest 15 initial scores received a final score of 3 points, the middle 14 initial scores received a final score of 2 points, and the bottom 14 initial scores received a final score of 1 point. All the 43 projects in the restoration and stormwater/flood control categories were scored for this criteria per the project evaluation criteria discussed at the 26 July 2013 Sub-committee meeting. Any project that is purely “water supply/wastewater” was excluded from scoring.

The goal was to select non-overlapping data fields from the *Project Template*, primarily “Resource Management Strategies” fields, which best represented or were in alignment with the objectives listed in the California Water Plan Update (CWP) 2013 (draft). An additional field which looked at other plans is also listed below and was taken into consideration for the initial score. The following data fields from the *Project Template* are included in the initial scoring for the “relevance to State Water Plan and Other Plans” criteria:

1. Agricultural water use efficiency
2. Urban water use efficiency
3. Conveyance – regional/local
4. System reoperation
5. Water transfers
6. Conjunctive management and groundwater
7. Desalination

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8. Precipitation enhancement
 9. Recycled municipal water
 10. Surface storage – regional/local
 11. Drinking water treatment and distribution
 12. Groundwater and aquifer remediation
 13. Matching water quality to use
 14. Pollution prevention
 15. Salt and salinity management
 16. Urban runoff management
 17. Agricultural lands stewardship
 18. Economic incentives
 19. Ecosystem restoration
 20. Forest management
 21. Land use planning and management
 22. Recharge areas protection
 23. Water-dependent recreation
 24. Watershed management
 25. Flood risk management
 26. Sediment Management*
 27. Public outreach and education*
 28. Water and culture*
 29. Other resource management strategies
 30. List the adopted planning documents the proposed project is consistent with or supported by
- * New RMS for 2013 CWP draft, all projects were scored for these RMS at our discretion

Each of the above data fields are worth 1 point if checked “Yes” with the exception of “Other resource management strategies.” If this field lists a management strategy not listed above but inclusive to the CWP 2013 (i.e. Sediment Management) then 1 point was given. The last field allowed the agencies/organizations to input any other plans their project may be relevant to. If there are any plans listed here, 1 point was given.

Attachment 2 - Relevance to Plan Score

Please note, scoring was based upon the document to the right.

Field	Points Awarded	Max Possible Points
Agricultural Water Use Efficiency		1
Urban Water Use Efficiency		1
Conveyance - Regional/Local		1
System Reoperation		1
Water Transfers		1
Conjunctive Management & Groundwater		1
Desalination		1
Precipitation Enhancement		1
Recycled Municipal Water		1
Surface Storage - Regional/Local		1
Drinking Water Treatment and Distribution		1
Groundwater and Aquifer Remediation		1
Matching Water Quality to Use		1
Pollution Prevention		1
Salt and Salinity Management		1
Urban Runoff Management		1
Agricultural Lands Stewardship		1
Economic Incentives		1
Ecosystem Restoration		1
Forest Management		1
Land Use Planning and Management		1
Recharge Areas Protection		1
Water-dependent Recreation		1
Watershed Management		1
Flood Risk Management		1
Sediment Management		1
Public Outreach and Education		1
Water and Culture		1
Other Resource Management Strategies		1
Adopted planning documents the proposed project is consistent with or supported by		1
Total	0	30

Project #	Sub Score
1	7
2	11
3	9
4	5
5	8
6	10
7	9
8	10
9	8
10	9
11	10
12	9
13	6
14	4
15	8
16	10
17	12
18	10
19	9
20	6
21	6
22	9
23	4
24	13
25	3
26	6
27	7
28	4
29	11
30	6
31	4
32	6
33	6
34	4
35	7
36	10
37	5
38	6
39	5
40	5
41	8
42	5
43	6
44	9
45	7
46	6
47	15
48	7
49	13
50	1
51	3
52	2
53	3
54	4
55	11
56	5
57	3
58	3
59	3
60	11

Project #	Final Score	Rank	Percent	Score
50	1	1	2%	1
52	2	2	3%	
25	3	3	5%	
51	3	4	7%	
53	3	5	8%	
57	3	6	10%	
58	3	7	12%	
59	3	8	13%	
14	4	9	15%	
23	4	10	17%	
28	4	11	18%	
31	4	12	20%	
34	4	13	22%	
54	4	14	23%	
4	5	15	25%	
37	5	16	27%	
39	5	17	28%	
40	5	18	30%	
42	5	19	32%	
56	5	20	33%	
13	6	21	35%	
20	6	22	37%	
21	6	23	38%	
26	6	24	40%	
30	6	25	42%	
32	6	26	43%	
33	6	27	45%	
38	6	28	47%	
43	6	29	48%	
46	6	30	50%	
1	7	31	52%	
27	7	32	53%	
35	7	33	55%	
45	7	34	57%	
48	7	35	58%	
5	8	36	60%	
9	8	37	62%	
15	8	38	63%	
41	8	39	65%	
3	9	40	67%	
7	9	41	68%	
10	9	42	70%	
12	9	43	72%	
19	9	44	73%	
22	9	45	75%	
44	9	46	77%	
6	10	47	78%	
8	10	48	80%	
11	10	49	82%	
16	10	50	83%	
18	10	51	85%	
36	10	52	87%	
2	11	53	88%	
29	11	54	90%	
55	11	55	92%	
60	11	56	93%	
17	12	57	95%	
24	13	58	97%	
49	13	59	98%	
47	15	60	100%	