



CITY OF CHICO
BIDWELL PARK AND PLAYGROUND COMMISSION (BPPC)

Special Meeting Agenda
October 26, 2011, 6:30 p.m.
Municipal Center - 421 Main Street, Council Chamber

Materials related to an item on this Agenda are available for public inspection in the Park Division Office at 965 Fir Street during normal business hours or online at <http://www.chico.ca.us/>.

1. SPECIAL COMMISSION MEETING

- 1.1. Call to Order
- 1.2. Roll Call

2. MEETING AGENDA

2.1. City Clerk Presentation of Board and Commission Overview

City Clerk Debbie Presson will present a brief overview of Boards and Commissions procedures and policies. She will also discuss the comprehensive training required for Commissioners that will be scheduled in the near future. She will be available for questions. **Recommendation:** Informational only, no action requested.

2.2. Consideration of Commissioner Herrera's request to Agendize the Discussion on Public Fruit Trees

By email dated October 3, 2011, Commissioner Herrera has asked that the BPPC consider his request to discuss public fruit trees. The BPPC will follow Council Policy (AP&P 10-10, 1) on the request (the Commissioner will describe the request; the BPPC will take public input on whether to consider the requested issue; and the BPPC will refer for Staff response or vote to hear the issue or refer to committee). **Recommendation:** Staff believes that the request can be addressed under the BPPC's Workplan item "Development of an Urban Forest Management Plan" and through direct staff action.

2.3. International Mountain Bicycling Association's (IMBA) Subaru Trail Care Crew Request for a Trail Workday

Renee Johnson, a local mountain bike rider and trail enthusiast, submitted a grant proposal to the Subaru's International Mountain Bicycling Association's Trail Care Crew Program last Fall. The Natural Resources Committee reviewed and discussed the request to hold an educational trail workshop with IMBA staff and then a trail work day on November 12. **Recommendation:** The Natural Resource Committee recommends BPPC approval of the request.

2.4. Review and Consideration of the Wet Weather Management Plan

In 2009, the BPPC adopted an "Interim (Adaptive) Wet Weather Management Plan", Staff will present an analysis of data from 2010-2011 and detail changes to the assessment protocol. **Recommendation:** BPPC review and discussion of the data collected in 2010-2011 and adoption of changes to the protocol. A revised "Adaptive Wet Weather Management Plan" will be presented at a future BPPC meeting.

3. ADJOURNMENT

Adjourn to the next regular meeting on November 28 at 6:30 p.m. in the Council Chamber of the Chico Municipal Center building (421 Main Street, Chico, California).



Please contact the Park Division Office at (530) 896-7800 if you require an agenda in an alternative format or if you need to request a disability-related modification or accommodation. This request should be received at least three working days prior to the meeting.

General Services Department, Park Division
965 Fir Street
(530) 896-7800



CITY OF CHICO
BIDWELL PARK AND PLAYGROUND COMMISSION (BPPC)
Special Meeting October 26, 2011
Municipal Center - 421 Main Street, Council Chamber

For Item 2.1 If you have any questions about processes or procedures that you would like addressed at the Special Meeting on October 26, 2011 by the City Clerk Debbie Presson, please email them to her by Tuesday, October 25 at dpresson@ci.chico.ca.us or call her at 530- 896-7251.

Herrera request

From: Mark Herrera <mherrera7@mail.csuchi.co.edu>
To: Dan Efseaff <DEfseaff@ci.chi.co.ca.us>
Date: 10/3/2011 2:43 PM
Subject: Hello

Hello Dan,

I would like to request that a discussion of public fruit trees be added to a future agenda per our conversation during the past commission meeting. Thank you so much and I hope that you are having a pleasant day.

Thanks so much,
Mark Herrera



DATE: 10/18/11
TO: BPPC
FROM: Dan Efseaff, Parks and Natural Resources Manager
SUBJECT: International Mountain Bicycling Association's (IMBA) Subaru Trail Care Crew Request for a Trail Workday

Recommendation

The Natural Resource Committee recommends the BPPC consider and approve the IMBA proposal for a trail work day in Bidwell Park.

Background

In November 2010, Renee Johnson, a local mountain bike rider and trail enthusiast, submitted a grant proposal to the International Mountain Bicycling Association's Subaru Trail Care Crew Program with the support of the local organizations. Subaru approved the application and the IMBA Trail staff is scheduled to visit Chico on November 12, 2011. "The main focus of the visit is education, not trail work" and according to Ms. Johnson's proposal, "Through education we can heighten awareness regarding proper trail design, limit illegal trail work, and bring together the community by creating a stronger more educated volunteer network. Thus, allowing work to be done at a more progressive rate and with community support" (see attached proposal request).

IMBA was founded in 1988 to promote Mt. biking in the United States. IMBA's Trail crew conducted the same type of trail education and work day in Upper Bidwell Park in the spring of 2004.

Park staff will work with IMBA and Renee Johnson several days prior to the event to conduct assessments of the trail area to be worked on. The November 12 event will include a mandatory training in the morning for volunteers conducted by Park staff and IMBA Trail crew leaders and then in the afternoon, volunteers will work under the guidance of park and IMBA trail crew leaders.

Park staff is working on the development of a trail volunteer program to support work in Bidwell Park. The program will provide volunteers with training for rules, safety, ecology, the Bidwell Park Master Management Plan (BPMMP), the Park Division planning process and design, trails manual, etc. The goal is to utilize the trail volunteers for special projects and authorized trail work. The program will need further development and revision of the Trails Manual. This program is independent of the IMBA request, but the IMBA trail day may provide us with an opportunity to recruit interested people for this program and determine the information that volunteers will need for a long-term program. Close coordination with Park staff will ensure that the trail day is consistent with the BPMMP and park policy.

Attachment: Renee L. Johnson's letter request, September 20, 2011 and Request for Half Day of Trail Work in Bidwell Park with Park Division and the International Mountain Bicycling Association.

Distribution: BPPC

Renee L. Johnson

532 W 14th ST.
Chico, CA 95928

September 20, 2011

City of Chico Park and Playground Commission and Park Department
Attn: Dan Efseaff and Staff

Dear Park Commission and Bidwell Park Department,

I am requesting permission to work on trail(s) in Upper, Middle, or Lower Park on Saturday, November 12, 2011. Below you will find my proposal for the trail work which will be in conjunction with the International Mountain Bicycling Association's Subaru Trail Care Crew. Please include this information on the next Park Commission meeting for approval. If you have any questions or concerns, please feel free to call or e-mail me. Thank you so much for your consideration.

Sincerely,

Renee Johnson
Home: 530-894-5872 Mobile: 530-321-8422
e-mail: fixiegal@yahoo.com

Request for Half Day of Trail Work in Bidwell Park with Park Division and the International Mountain Bicycling Association

DATE: 20, September 2011

TO: City of Chico Park Commission and Park Staff

Requesting permission to work in conjunction with the City of Chico Bidwell Park Staff in the afternoon on Saturday, November 12, 2011 on the trail(s) located on Upper, Middle, OR Lower Bidwell Park. The trail(s) decided upon for work will be chosen by the City of Chico Park staff with the help of the International Mountain Bicycling Association (IMBA) Subaru Trail Care Crew staff, and myself, Renée Johnson. Once the trail has been decided upon, weather permitting, I am requesting a half day of trail work be permitted on Saturday, November 12, 2011 with the public under the supervision of the Park staff, Subaru Trail Care Crew, and myself. Before any member of the public is permitted to work in the park they will be required to take the mandatory educational course presented by the Subaru Trail Care Crew pre-approved by the City of Chico Bidwell Park staff in the morning on Saturday, November 12, 2011.

NEED:

The trails in Bidwell Park are loved to death. Since the founding of Bidwell Park in 1905, the population of Chico and surrounding area has grown exponentially. Our growth in population has also grown our park and the usage within the park. Owning one of the largest municipal parks in the United States, our park is not built to sustain the amount of attention received from users every year. The trails in the park need a great deal of work in order to be sustainable for future generations to enjoy and current users to continue loving while being safe.

Recently the City of Chico received a grant to work on Middle trail in Upper Bidwell Park. The initial trail work created some complaints from other users. As a response to those complaints, in November of 2012, I applied for a grant from IMBA with the support of Chico Velo, local bicycle shops, Bidwell Park Staff, Mayor Ann Schwabb, and the general public. The value of the grant is approximately \$2,500 and consists of an educational visit from the IMBA Subaru Trail Care Crew (STCC). The main focus of the visit is education, not trail work. Through education we can heighten awareness regarding proper trail design, limit illegal trail work, and bring together the community by creating a stronger more educated volunteer network. Thus, allowing work to be done at a more

progressive rate and with community support. The visit will also allow time for questions to be answered and a deeper look at our very unique terrain.

The STCC provides a great opportunity to educate the public on sustainable trails and the current state of the trails in Bidwell Park. Through education the city will be able to more easily go about redesigning our trail system in order to preserve the trails for future generations.

The City of Chico, aware of the need to protect the park, established the Master Plan. In order to aid with the design of the master plan and create a more sustainable Park, I applied for a grant with IMBA to have the Subaru Trail Care Crew visit and educate the public and the city on current practices used to establish sustainable trails.

ORGANIZATION:

The International Mountain Bicycling Association was founded in 1988 to promote mountain bicycling in the United States. In their own words “IMBA has been bringing out the best in mountain biking by encouraging low-impact riding, volunteer trail work participation, cooperation among different trail user groups, grassroots advocacy and innovative trail management solutions”. Established in 1997, the Subaru Trail Care Crew assists IMBA in accomplishing their goals. The STCC have worked on trails all across the United States, promoting “...sustainable trail building, which means building lasting trails that require minimal maintenance. This helps reduce trail damage, protects the environment and enhances visitor enjoyment”. The main goal of the Subaru Trail Care Crew visit is not exclusively for trail construction, rather the main objective is education. By educating mountain bike users and the general public as to trail design and sustainability we are able to move forward in a progressive manner benefiting the entire community, accomplishing goals set forth in the Master Plan, and most of all benefitting our park.

EVENT:

Leading up to the half day of trail work on Saturday, November 12, 2011 the STCC will be working with the City staff and myself to prepare a design based upon need for trail work in Bidwell Park. The crew consists of two individuals. They do not use any motor operated or powered tools. Also, the crew does not provide tools for workers. So, any tools that are prohibited from being used in the park will be easily detained. Everything will go through checks and balances. The participation of fellow commission and city faculty is highly encouraged and welcomed.

The presentation on sustainable trails consists of photos with commentary allowing for input from land managers and/or city officials to assist in making a unique and individual educational experience for the public. Anyone wishing to partake in the trail work on Saturday, November 12 in

the afternoon, will have to attend the mandatory educational presentation in the morning on the same day. All individuals wishing to partake in trail work in the afternoon will have to attend the morning class otherwise they will not be permitted to work on the trail(s). The STCC visit is a joint effort between IMBA and the community. The STCC will meet with local officials two days before any work is done on the trails to discuss the area and alter Saturday's presentation as needed; as well as, meetings via the phone and e-mail leading up to the day of the event. Weather permitting, there will be a half day of trail work where attendees of the mandatory educational course on trails in the morning can apply what they just learned in class.

COST:

IMBA's visit is a grant project, any additional funding needed for the crew including housing and food will be funded by myself with the aide of outside resources. There is no financial obligation requested from the city other than voluntary participation.

CONCLUSION:

The current disconnect between trail users and the City Staff can be healed through education and participation from all entities. By opening our doors to an outside source and allowing them to teach us unfamiliar useful techniques, we are able to create an even better park for future generations. We have one of the largest municipal parks in the country, now we should strive to make our park one the most sustainable. In order to be successful in this goal we need to have the entire community involved and aware of how special an environment we frequently recreate. Allowing the STCC into our park, we are opening ourselves up to a wider knowledge base and an opportunity to educate and promote the goals set forth in the Master Plan for future generations to enjoy.

RESOURCES:

"Subaru/IMBA Trail Care Crew." www.imba.com/tcc. IMBA, n.d. Web. 19 Sept. 2011.

"About IMBA U.S." www.imba.com/about. IMBA, n.d. Web. 19 Sept. 2011.



DATE: 10/20/11
TO: Bidwell Park and Playground Commission (BPPC)
FROM: Dan Efseaff, Park and Natural Resource Manager
SUBJECT: Review of Interim Wet Weather Use Policy

Recommendation

BPPC review and discussion of the data collected in 2010-2011 and adoption of changes to the protocol. A revised "Adaptive Wet Weather Management Plan" will be presented at a future BPPC meeting.

Background

For many years, an informal method was used to determine whether trails in Middle and Upper Park were open to equestrians and mountain bicycles. No restrictions are currently placed on pedestrians. At its 9/28/09 meeting, the Commission reviewed and discussed a new procedure, developed with the help of Chico Environmental, to determine whether trails for equestrian and bicycle use, more recently Hwy 32 disc golf course play, should be curtailed during wet weather in Middle and Upper Bidwell Park. The methodology uses available information on the amount of rain fall, soil moisture, and on-site analysis for a site in the Horseshoe Lake area for Middle and Upper Bidwell Park and the Disc Golf Course Area/Trailhead on Highway 32.

The approach is based on measurable information that can be tracked and is adaptable so that adjustments may be made as needed. Park staff implemented the Wet Weather procedures of checking soil moisture with a gauge, walking the trail to check for trail soil moisture, checking rain gauges and viewing precipitation data on Chico, Cohasset, and Paradise weather stations on the internet. The plan was modified during the season (December 2009) to use more stringent standards on precipitation (from 0.75" to a trigger of 0.25" to close trails) and footsteps in the trail tread (from 0.5 inches to a visible print).

Under the revised Interim (Adaptive) Wet Weather Management Plan (CESP 2009), trails in Upper Park or the Disc Golf Area are closed if:

1. Approximately 0.25 inches of precipitation was recorded from weather stations in a 24-hour period (trails should remain closed for at least one day after the event). (Page 5), or
2. Any footprint within the trail tread is evident on trails in Upper Park or the Disc Golf Course (Page 2), and
3. Three or more soil moisture readings of 8 units or greater (Page 3).

The procedures for the determination are summarized in Figures 1 and 2. The determination of trail status was made by 11:00 am every day and the public notified of trail openings and closings using existing communication mediums (phone line, web access, and news media).

The Interim plan noted that these policies work best for well-spaced storm events which allow time for soil to dry out in between. Following any rain event, trails should remain closed for at least one day after the event and if there is a high (70% or higher) possibility of precipitation on that day (and thus no reason to field check the sites). If no foot steps within the trail tread are visible, and eight or more soil moisture readings are less than 8 units, the trails may be opened. Guidance for the plan notes that while staff will continue to evaluate and monitor site conditions, there will still be times when a judgment call has to be made based on both observations and data.

The adaptive nature of the plan called for the review of the data and a report back to the BPPC summarizing the data collection, and providing recommendations. This report provides a summary of the year. Staff will prepare a follow-up report with recommendations.

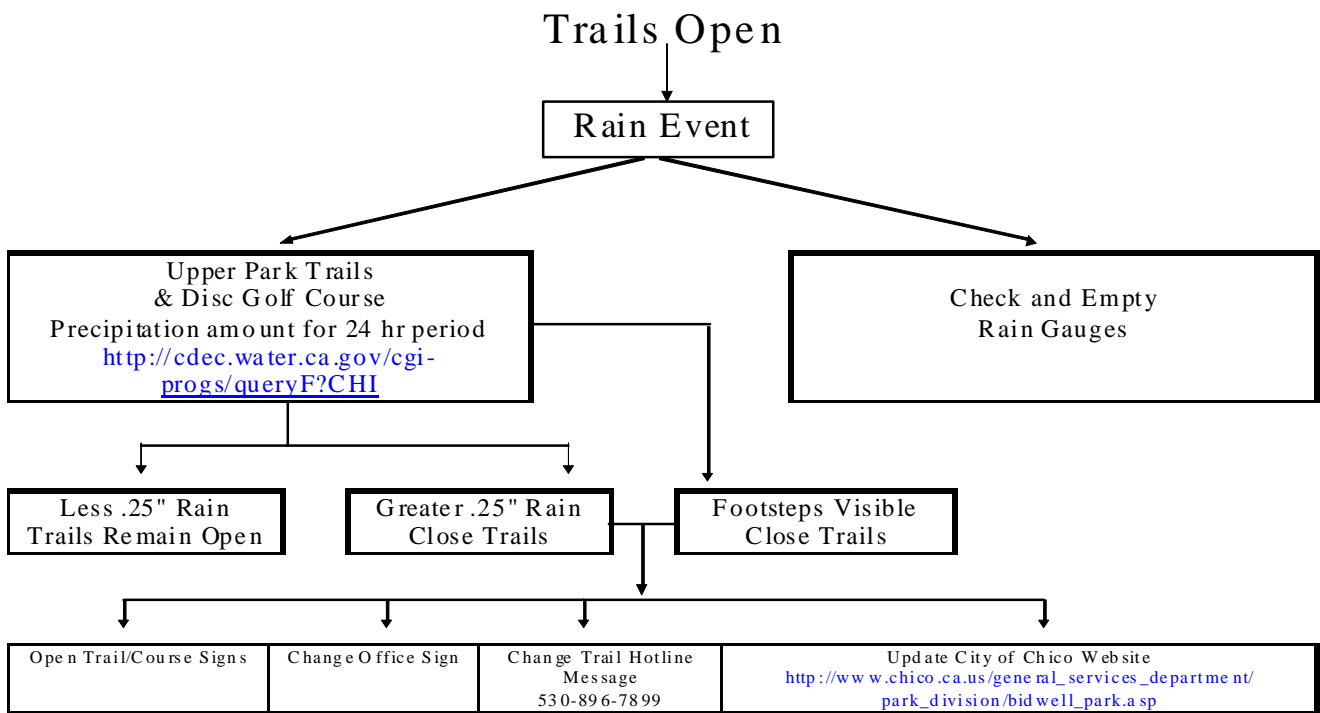


Figure 1. Decision Tree of Trail Closure.

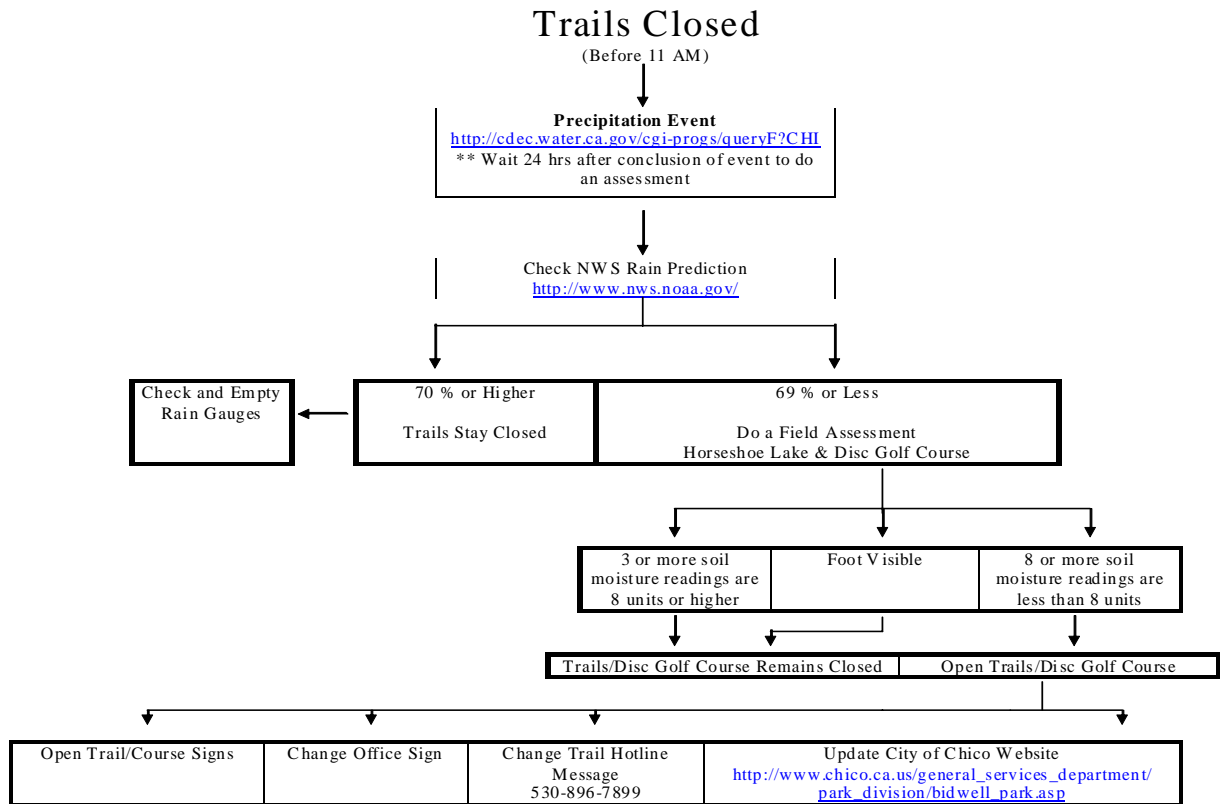


Figure 2. Decision Tree of Trail Opening.

Data Collection

During the 2009-2010 season, park rangers conducted an assessment of the Upper/Middle Park trails and the Highway 32 disc golf courses to determine trail openings and closings. Data collected included: observer id; time; Chico, Paradise, and Cohasset weather station precipitation (available at the California Data Exchange, <http://cdec.water.ca.gov/>); rain forecast exceeding 70%; rain gauge measurements (Horseshoe Lake and Hwy 32/Disc Golf), footstep imprints; soil moisture probe readings, comments, and trail status (open or closed).

Results

We provide a monthly summary of trail closure dates and weather conditions (Table 1) and trail closures versus daily precipitation (PPT) and average temperature for both sites (Figures 3 and 4) from July 1, 2010 to July 31, 2011.

Over the 396 day time period, Upper Park trails were closed to bikes and equestrians 148 days (41%) of the time while the Hwy 32/Disc Golf area were closed 157 days (43%). Precipitation fell on approximately 97 days, with 43 of those containing events that exceeded 0.25 inch. Last year, Upper Park trails were closed 139 days while the Hwy 32/Disc Golf area were closed 131 days; however, the number of days of precipitation was less (83 days with 37 days with events that exceeded 0.25 inch). In sum, 2011 had more rainy days (12%), more days with greater than 0.25" precipitation (16%), and greater precipitation (11%, and at 32.68" 26% over the average rainfall of 26") than 2010. These track with the number of days Upper Park trails were closed between 2011 and 2010 (13%).

The data was analyzed using statistical software (Minitab) with some of the notable findings listed below. As the data description is technical, staff will describe this approach at the BPPC meeting.

1. We compared precipitation data from the Chico (CHI) and Paradise (PDE) weather stations, field measurements from the Hwy 32/Disc Golf Site (Peregrine Point) and Horseshoe Lake, and the calculated estimate for Hwy 32/DG (based on last year's data, Est. PP PPT = $0.0041 + 0.813 \cdot \text{CHI} + 0.198 \cdot \text{PDE}$). The locations marked with a "-24 hours" denote data collected during the season from the Chico and Paradise stations during wet-weather assessments.

With the Paradise data, mean precipitation levels were significantly different (One-way ANOVA, p-value = 0.018). However, with that data removed, we observed no statistical difference in mean precipitation between the Chico weather station (including the 24 hour data), field measurements at the Hwy 32/Disc Golf and Horseshoe Lake sites, and interestingly, between the calculated estimate based on weather station data. Except for Paradise, the means all hovered around 0.1 inches/day.

Table 1. Comparison of Daily Precipitation Means.

Location	N	Mean (inches)	StDev
Chico Airport (CHI)	396	0.084	0.24
Chico Airport (CHI) – 24 hour	396	0.084	0.23
Horseshoe Lake (Field)	396	0.10	0.26
Peregrine Point (Calculated)	396	0.09	0.26
Peregrine Point (Field)	396	0.11	0.29
Paradise (PDE)	396	0.15	0.45
Paradise (PDE) – 24 hour	396	0.13	0.41

2. Because the means and standard deviations may mask differences between daily rainfall events, we compared rainfall events with a paired t-test. We observed no difference between the Chico Airport vs. Horseshoe Lake field data ($p = 0.229$) and the Chico Airport (daily) vs. Chico Airport (24 hour) ($p = 0.998$). We did observe significant differences between:
 - a. Chico Airport and Peregrine Point (Field) ($p < 0.001$, difference -0.025),
 - b. Chico Airport - 24 hour and Peregrine Point (Field) ($p < 0.001$, difference -0.025),
 - c. Horseshoe Lake and Peregrine Point (Field) ($p = 0.015$, difference 0.07).
 - d. Peregrine Point (Field) vs. Peregrine Point (Calculated) ($p < 0.001$, difference -0.02).

While statistically significant, these differences are small and from a practical standpoint not significant, and might be explained by the less precise field equipment and measurement error. Small differences were also observed last year, but we were reluctant to remove it from just one season's data collection. Though no differences were

Table 2. Monthly Summary of Chico Weather Data and Trail Closures.

Month		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Summary	Total
Days	In Month	31	31	30	31	30	31	31	28	31	30	31	30	31		365
	with PPT	0	0	2	8	7	20	10	8	19	5	12	6	0		97
	Rainfall > 0.25 in	0	0	1	2	3	11	3	5	8	0	7	3	0		43
	UP Trails Closed	0	0	1	10	20	31	22	15	29	0	12	8	0		148
	PP DG/Trails Closed	0	0	1	11	22	31	25	16	29	0	13	9	0		157
Ave. Daily Temp. (oF)		80	76	73	64	51	49	45	48	52	58	62	71	78		60.59
Average CDD		1.0	1.0	1.0	0.7	0.3	0.0	0.0	0.1	0.1	0.7	0.8	1.0	0.0		0.55
Average Daily Flow (cfs)		35	28	29	85	111	371	115	245	778	346	196	120	78		204.82
Ave. Daily Rainfall (in.)		0.00	0.00	0.02	0.09	0.11	0.27	0.06	0.14	0.20	0.01	0.13	0.06	0.00		0.09

Ave. = Average. CDD = Cooling Degree Day for 60 °F (average temp – 60). PPT = precipitation. Temp. = Temperature. UP = Upper and Middle Park Trails. PP= Peregrine Point/ Highway 32 trailhead and disc golf course area.

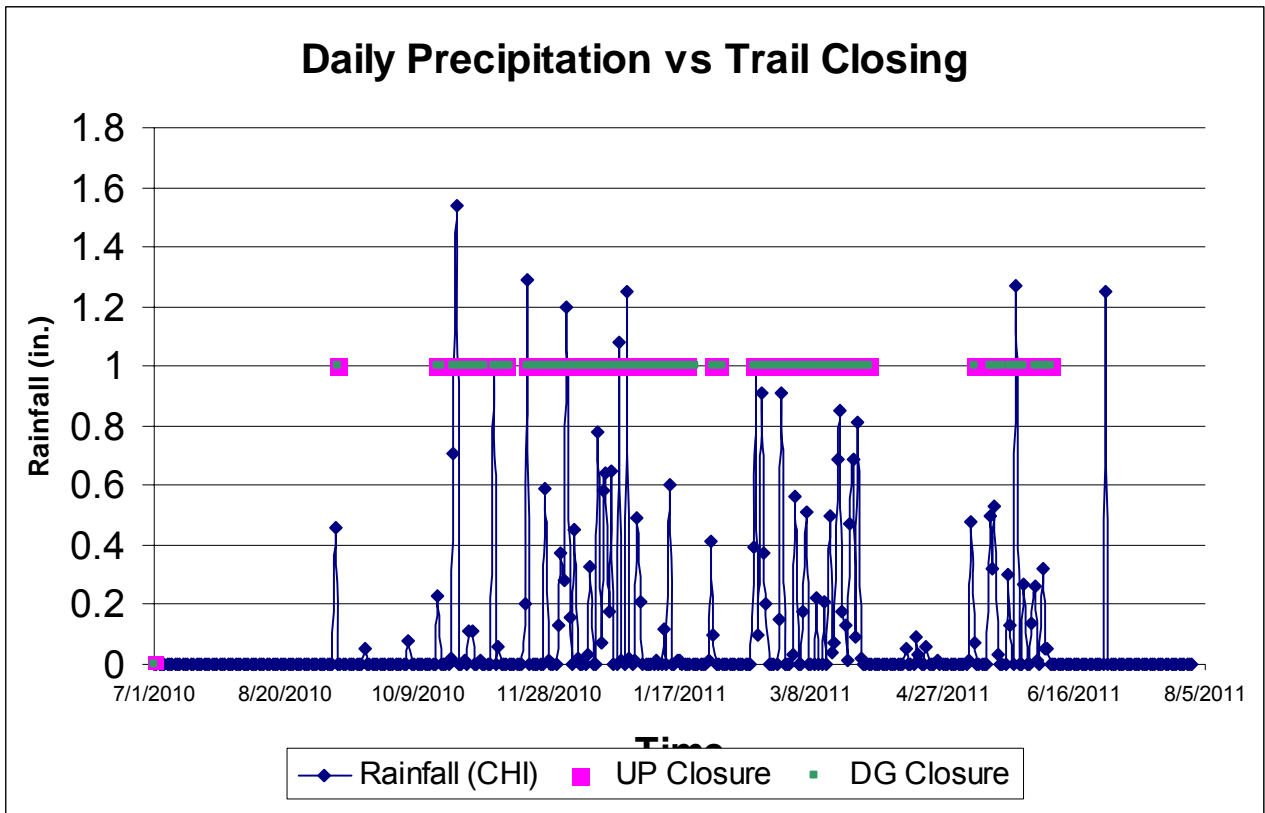


Figure 3. Graph of Trail Closures Versus Daily Rainfall Amounts.

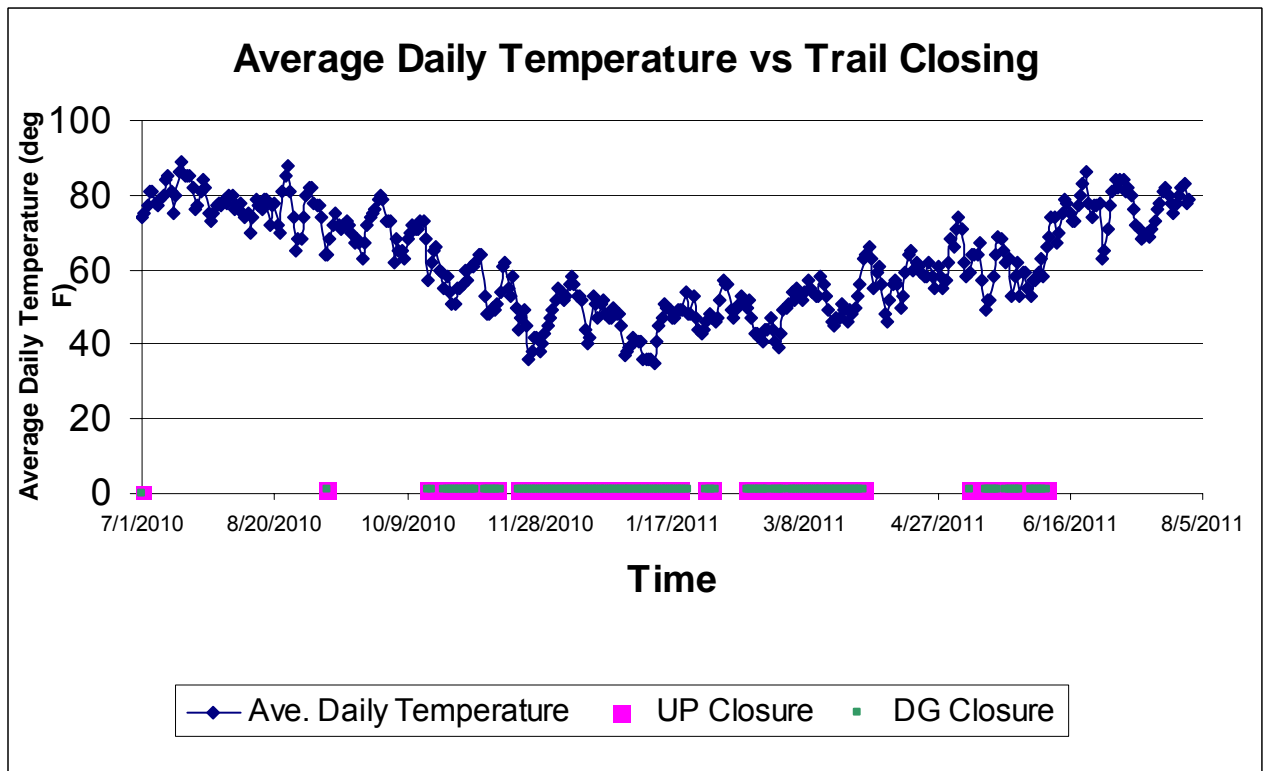


Figure 4. Graph of Trail Closure versus Average Daily Temperature.

seen in the 24 hour data, from a timing standpoint, the 24 hour data is timelier as a benchmark for trail closures. Trails will be closed when the threshold of 0.25" is exceeded, rather than the measurement start all over at midnight.

3. The equation set up (CESP 2009) for approximating rainfall at the Peregrine Point /Hwy 32/Disc Golf (PP) site. Based on comparisons of last year's data, a refined equation was developed:

$$\text{Est. PP PPT} = 0.0041 + 0.813 \cdot \text{CHI} + 0.198 \text{ PDE}$$

This approximation provided a good estimate ($p < 0.001$) that explained 82.8% of the last year's data. The best fit based on this year's data is:

$$\text{Est. PP PPT} = 0.0108 + 1.17 \cdot \text{CHI}$$

This equation provides a good estimate ($p < 0.001$) that explained 89.1% of the 2010-2011 data. With this equation it would take a rainfall event of 0.20 at the Chico airport to equal 0.25 at Peregrine Point. Using this equation, rainfall events from CHI between 0.20 and 0.24 would close Peregrine Point but not other Upper Park Trails.

4. Including data entry and public notification, the assessments took approximately 1 hour and 20 minutes to complete, with additional time required to change the park signs.
5. As noted last year the Rangers reported considerable variability in the soil moisture probes between samples (even within a few inches between samples). There were also locations that consistently measured high or low values.
6. While the "footsteps" indicator influenced trail openings, the Rangers note that some areas were wet for nearly the entire season, suggesting either trail repairs or modification of the policy.

Staff will examine this preliminary data and develop recommendations for BPPC consideration.

Recommendations

Staff recommends the following modifications to the wet weather protocol:

1. Adopt the following protocol changes immediately (Figure 5-6):
 - o Use only the Chico Airport weather station data (do not collect field precipitation data and do not use the Paradise data).
 - o Use 24 hour rainfall totals at the time of assessment or closing.
 - o Remove the soil moisture probes from the protocol (but allow the exploration of other methods or tools that examine soil moisture as part of the Field Assessment),
 - o Maintain separate assessments for Disk Golf and Trails for openings.
 - o Report to the public and BPPC on an annual basis.
2. Improve current methods to notify the public of trail openings including more noticeable signs. Use email and social media notification for trail status changes.
3. Refine the "footsteps" step of the protocol into a Trails field assessment that can use other tools (such as permanent probes that can be calibrated over time with trail closures). Develop a percentage of the trail walk area to match with field conditions. For example, the assessment could suggest closure when 25% of the trail has puddles, muddy, or leaves imprints.
4. Include a new assessment route to capture disc golf fairway conditions, rather than the current trail based route.
5. Explore the use of a model that might provide an estimated opening date. Variables for the model may include: evapotranspiration, temperature, days to last rainfall, Butte Creek flow, and precipitation. The information could be listed on the web page (i.e. "Estimated number of days for trail opening: 3.").
6. Increase education efforts (awareness of wet weather damage, wet weather options) and enforcement of closures.
7. Develop for BPPC review an "Adaptive Wet Weather Management Plan" that formalizes these changes and removes the "interim" status of the plan.
8. Revisit current closure areas (all trails in Middle and Upper Park) with the completion of the Trails Plan and further trails work (i.e. look at trails that may be permissible to allow access during wet conditions).
9. Compile an annual report to the BPPC based on "water year" (October to September).

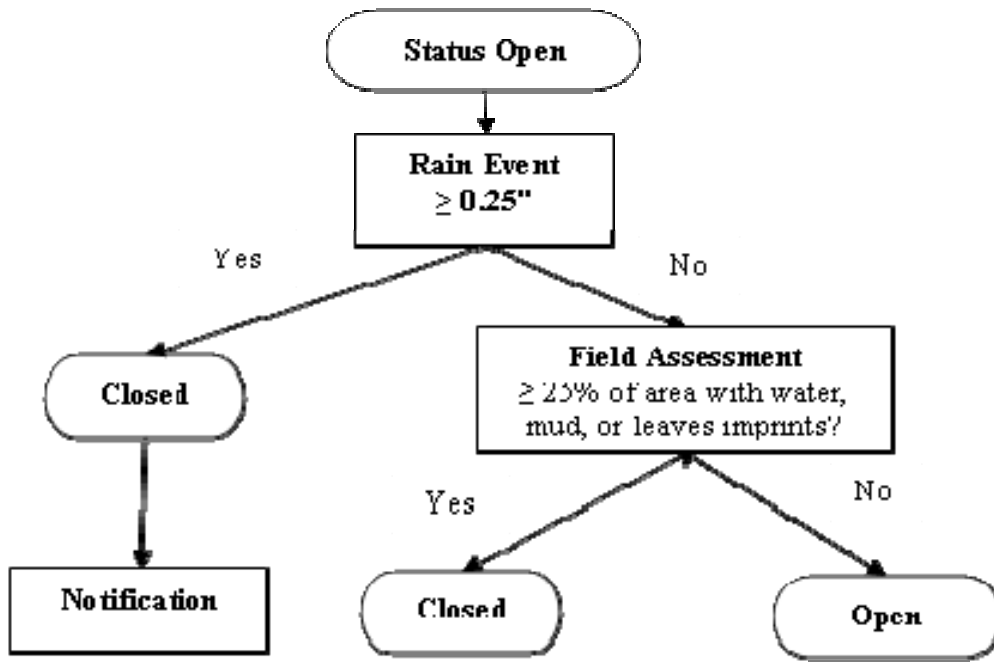


Figure 5. Draft Revised Trail/Disc Golf Closing Procedures.

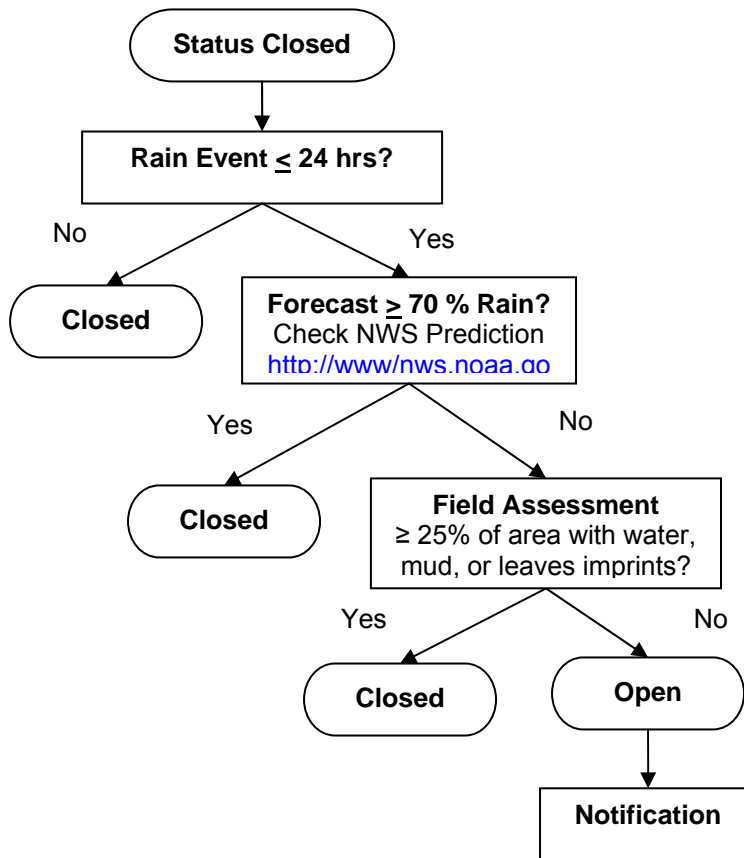


Figure 6. Draft Revised Trail/Disc Golf Opening Procedure.

References

[CESP] Chico Environmental Science and Planning. 2009. Interim (Adaptive) Wet Weather Management Plan. Prepared for City of Chico, General Services Department, Parks and Open Space Division. December, 2009. Chico, California.