



SOPARNA

**System for Observing Physical Activity
and Recreation in Natural Areas**

Description and Procedures Manual

written by

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Participation in recreational activities in natural areas provides physical and psychological health benefits,

THE BIG PICTURE

Natural areas (open spaces, forests, wildlands, and wilderness areas), within close-proximity to urban and metropolitan centers attract large volumes of recreational users from all demographic backgrounds. Although the physical activities of recreationists in natural areas may not necessarily be exercise- or fitness-related, it is likely that the outcome of these activities include muscle movement and caloric burning.

Urban-proximate natural areas may potentially play an important role in facilitating physical activity, but the physical activity of natural area users and the environmental conditions in which they are active in these areas have to be examined in detail.

The potential of natural areas to increase physical activity has important implications for public and environmental health, and for a wide range of policy sectors addressing environmental sustainability. Sound policy-decisions concerning the public health benefits of environmental sustainability and preservation of natural areas will depend on the availability of scientific data obtained through valid and reliable measurement tools.



Direct observation of recreation resource use will provide accurate user data that can be eventually used to develop tailored interventions to promote physical activity in natural areas.

What is SOPARNA?

SOPARNA (System for Observing Physical Activity and Recreation in Natural Areas) has been designed for use as a valid direct observation methodology for measuring recreation- and physical activity-related behavior in outdoor recreation settings such as forests, wildlands, wilderness zones, and natural open spaces.

SOPARNA provides a ready and easily replicable assessment of:

- ◆ Outdoor recreationists' physical activity levels, gender, activity modes/types, and estimated age and ethnicity groupings
- ◆ Individual activity areas, including their levels of accessibility, usability, supervision, and organization

Why do we need SOPARNA?

The vast majority of outdoor resource-user data is collected using subjective measures, such as surveys and questionnaires because they are easy to use and to administer. However, surveys and questionnaires are limited to respondents' memories and perceptions.

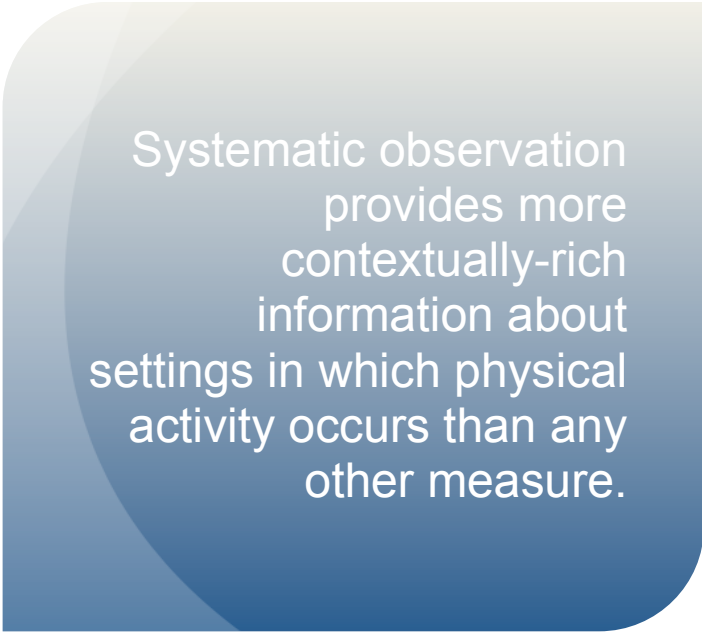
SOPARNA has been developed to better understand physical activity and recreational behavior in natural areas and to objectively measure physical activity and user characteristics.

How will SOPARNA help me as a resource manager?

Examining the levels of physical activity and types of physical activity among natural area recreationists (including children, adolescents, adults, and older adults) and the context in which natural area recreationists participate in physical activities is essential for generating baseline data relating to the potential of forests, wildlands, wilderness areas and natural open spaces to facilitate physical activity.

SOPARNA is meant to examine natural areas and investigate the characteristics of natural area recreationists, including their physical activity levels.

SOPARNA has potential for natural area planners, managers and researchers interested in environmental and policy interventions for increasing physical activity of specific populations and for making formative, process, and outcome evaluation decisions.



Systematic observation provides more contextually-rich information about settings in which physical activity occurs than any other measure.

How will SOPARNA help the public?

Natural area settings are available within close proximity to most communities and may be the only cost-effective physical activity environments available to specific racial/ethnic and lower-income population subgroups.

The need to develop and evaluate interventions to increase physical activity in multiple environments, including natural areas, is paramount in addressing the epidemic of child and adult obesity and the multitude of physical inactivity-related chronic diseases and negative health outcomes.



SOPARNA is based on momentary time sampling techniques in which systematic and periodic scans of individuals and contextual factors within pre-determined target areas in nature-based, outdoor recreation settings are made.

THE SOPARNA PROCESS



Scan

- ◆ During a scan, the activity of each individual is mechanically coded as Sedentary, Moderate, or Vigorous.
- ◆ Separate scans are made for females and males, and for estimating the age and ethnic groupings of participants.
- ◆ Simultaneous entries are also made for time of day, area accessibility, usability, presence of supervision, loose equipment, and recreational supports (dogs, horses, recreation transportation), and presence and classification of recreational activities.
- ◆ Summary counts describe the number of participants by gender, recreational activity types and levels, and estimated age, ethnicity, and gender groupings.



Target Area

- ◆ Direct observations will be made in designated **Target Areas** that represent all standard locations in a nature-based outdoor recreation setting likely to provide opportunities for recreationists to be physically active.
- ◆ These discrete, delineated areas will be predetermined and identified for observations prior to baseline assessments.
- ◆ A map will be provided to identify areas and a standard observation order will be established for each recreation area.
- ◆ Additional Target Areas may be added by observers on site and then documented.
- ◆ During occasions of high user density, Target Areas are subdivided into smaller Subtarget Areas (scan spaces) so that accurate measures can be obtained.
- ◆ Observers use visible, fixed markings to determine appropriate Subtarget Areas within each Target Area.
- ◆ Data from these smaller spaces are summed to provide an overall measure for each Target Area.

NOTE: A decision to subdivide a Target Area will depend upon the (1) number of recreationists in the area and (2) the type of user activity. Fast moving activities with people clustered together and moving in diverse directions (e.g., during group camping) will require smaller scan spaces.



Observation Periods

- ❖ Observers will then visit the target areas during specific time periods on randomly scheduled days.
- ❖ SOPARNA observations will be made, at the selected Target Areas, in a standardized format and within defined time-blocks.
- ❖ Target Areas will be observed in the same rotational order during each observation period.
- ❖ Observers will be required to be in the Target Area and ready to begin the first rotation of scans on time.



Observation Forms

- ❖ Depending on the recreation setting, three types of coding procedures will be utilized for SOPARNA recording:
 - ❖ observation form
 - ❖ drive-by coding form
 - ❖ path coding form



Observations

- ◆ Two observers will work together to document the type of activity, characteristics of the activity, and each person's activity level (sedentary, moderate, vigorous), gender, age group (child, teen, adult, senior), and race/ethnicity (Latino, African American, White, Asian, and other).
- ◆ Reliability checks with a third independent observer will be conducted to examine data reproducibility.
- ◆ During each visit to a Target Area, observers will document whether it was dark, unoccupied, accessible, usable, provided with supervision (e.g., forest ranger) or equipment (e.g., structures for activity), if the recreational activity was organized (e.g., guided tours, volunteering), recreational supports (dogs, horses, recreation transportation), and presence and classification of recreational activities.
- ◆ The observers will code all people in each Target Area at the moment of observation. People leaving the area before the observation or entering afterwards will not be counted.

NOTE: The objective of SOPARNA is to obtain an accurate measure of people engaged in the recreation site Target Areas during the predetermined observation periods.



Summary Counts

- ◆ To measure activity variables, counts will be tallied for those engaged in sedentary, moderate and vigorous activity in each area to obtain a summary score of the unit of analysis.
- ◆ Depending on the unit of analysis (gender, ethnicity, age, area, period, recreation area, etc.), raw counts in each activity level will be aggregated (sums or means) according to the variables of interest.
- ◆ For contextual characteristics of activity areas, the unit of analysis will be one scan of one activity area.
- ◆ To compute, gender, ethnicity, age, and period-specific summaries for each recreation area, daily means of counts based on the number of weekly observation days for each target area at each recreation site will be computed.
- ◆ Using these scores totals will be computed by aggregating counts across activity areas separately by gender, ethnicity, age, recreational activity and time period or each recreation area.



SOPARNA Observation Preparation

1. Observers/assessors must be well-trained in order to collect SOPARNA data.
2. Prior to leaving for the outdoor recreation site, prepare observation materials including: synchronized wristwatch, two-way radio, counter, clipboard, sufficient SOPARNA recording forms, target area map, pencils, and official project identification.
3. Prepare to be safe. For example, travel in pairs, carry sufficient water, an emergency first-aid kit, 2-way radio, cell phone, and whistle. Dress appropriately (e.g., hat, close-toed shoes with ample treads) and protect against the sun, bugs, and adverse temperatures.
4. Arrive at the outdoor recreation site at least 20 minutes prior to the official start of coding. Review the sequence for observing Target Areas. If possible, visit each Target Area in order and review Subtarget Area instructions. Mentally rehearse by scanning an area a few times.



SOPARNA Codes and Recording

Date Enter the date (US: mm/dd/yyyy; International: dd/mm/yyyy) of the observation.

Recreation Area ID Enter the designated Recreation Area ID. This is generally a two-letter abbreviation of the site name (e.g., Penny Pines is represented by “PP”).

Observer ID Enter your ID code.

Period Check the appropriate box to indicate whether observations were made in the morning, noon, or afternoon.

Target Area # Refers to the number of a previously designated Target Area (see recreation area map). If necessary, assign Subtarget Area numbers when you divide the area into multiple scan spaces.

Start Time Enter the start time (12 hour clock) of the scan for that designated area, e.g., 1:10 PM.

End Time Enter the end time (12 hour clock) of the scan for that designated area, e.g., 1:15 PM.

Area Condition Check “Yes” or “No” to describe specific conditions for each scan area.

Accessible = Code “YES” if area is accessible to the public (e.g., area is not locked or inaccessible due to official wilderness area closure for reasons such as fire, ice, snow, or rented to a private party).

Usable = Code “YES” if area is usable for physical activity (e.g., is not excessively wet or roped off for repair). Code “YES” when the space is usable, even though it may be locked. Code “NO” when there is insufficient lighting to use the space (e.g., no outdoor lights permitting recreation after sunset).

Equipped = Code “YES” if equipment (e.g., balls, jump ropes) provided by the site is present during the scan. Code “NO” if the only equipment available is permanent (e.g., swings and climbing apparatus) or owned by recreationists themselves (e.g., Frisbee, ball, or bicycle brought by a family/individual).

Supervised = Code “YES” if area is supervised by designated recreation site or adjunct personnel (e.g., park rangers, group leaders, volunteers, officials). The supervisor must be in or adjacent to that specific area at the time of the scan (i.e., available to direct recreationists and respond to emergencies), but does not have to be instructing, officiating, or organizing activities.

Activity Organized = Code “YES” if an organized physical activity is occurring in the scan area (e.g., a scheduled recreation event or interpretive tour is being lead by recreation site staff or adjunct personnel).

Dark = Code “YES” to indicate the area has insufficient lighting to permit active recreation. Observers should not enter a target area unless there is sufficient lighting.

Empty = Code “YES” when there are no individuals present during the scan. Also, code “YES” when the area is dark.

Comments Enter relevant additional information about the condition, people, or activities within the Target Area.

Activity Type Identify the single most prominent (primary) physical activity that females and males are doing in the area. Examples are:

Fitness Related Codes (F):

bicycling
walking/hiking/snowshoeing/skiing
jogging/running/jumping rope
fitness activities, including stations (strength/flexibility exercises)

Sport Related Codes (S):

ball sports (e.g., basketball, football, lacrosse, soccer, softball, volleyball.)
racquet sports (badminton, tennis)
dance/yoga/tai chi/gymnastics

Active Game Related Codes (G):

playing with dog/pet
climbing/sliding/ hop scotch
manipulatives/playing catch/racquet activities
tag/chasing games/capture-the-flag/tetherball
horseshoes/croquet/bocce ball/lawn bowling

Sedentary Recreation Codes (R):

Artwork/reading
chess/checkers/cards
lying down/standing/sitting
picnicking/camp-fire

Other (O):

park maintenance
ATV/motorized vehicle
hunting/fishing/ horse-back riding
bird-watching/photography/interpretive tours

Activity Level Scanning from left to right, determine the activity level based on the following criteria:

Sedentary (S) = Individuals are lying down, sitting, or standing (includes sitting on a standing horse or during fishing)

Moderate (M)= Individuals are walking at an ordinary pace or in an activity where heart-rate is similar to walking (riding a walking horse).

Vigorous (V) = Individuals are engaged in an activity more vigorous than an ordinary walk (e.g., doing cart wheels, running with dog, bicycling with pedaling, riding on running/cantering horse).

Recreational Supports Scanning left to right, determine if the target area contains any of the following:

Dog (D)

Horse (H)

Motorized Transportation (M). Motorized means for recreational transport (e.g., ATV, motorcycle, ski-mobile; whether running or not)

Non-Motorized Transportation (N). Non-motorized means for recreational transport (e.g., bicycle, tricycle, sled; whether being used or not)

Age Group Determine age according to the following criteria:

Child = Infancy to 12 years of age.

Teen = 13 to 20 years of age.

Adult = 21 to 59 years of age.

Senior = 60 years of age.

Ethnicity Code whether the primary ethnicity of each individual is Latino (L), Black (B), White (W), or Other (O)

NOTE: Only persons in the delineated Target Area visible to the observer are recorded. Persons possibly in tents or recreational vehicles (trailers, campers) in the delineated Target Area that are not visible are NOT be recorded.





Recording Procedures for SOPARNA Observation Form

1. On the observation form, enter the **Date**, **Recreation Area ID**, **Observer ID**, **Period**, and **Target Area**.
 - Observers are encouraged to complete this section prior to the start of the observation period.
2. If there are too many people to count accurately in any area, divide it into **Sub-target Areas** and follow the procedures below for each Sub-target Area separately. Use letters to distinguish the Sub-target Areas (i.e., A, B, C).
 - When people move to a different Sub-target Area while you are scanning, count only those present at the time of a scan. In rare cases you may count people twice or miss them as they change areas. Make sure the entire space in the main target area is included within the Sub-target Areas.
3. Enter the **Start Time** for each area scan.

4. Record the conditions for each area (Accessible, Usable, Equipped, Supervised, Organized, Dark, and Empty).
 - When there are people are in the area, go to Step 5.
 - When the area is “dark” or “empty,” complete the conditions and skip to Step 15. Then move to the next Target Area.
5. Determine if there are **Females** within the target area.
 - If no females are within the target area, write “none” and skip to Step 14.
6. For **Females**, decide which is the main activity in the target area and record it under **Primary Activity Type**. Refer to the codes listed on the SOPARNA data form (or this protocol) to determine the appropriate terminology for the activity.
7. Scan the target area for **Females**. Use the counter to code each female as either sedentary, moderate, or vigorous.
 - Always scan from LEFT to RIGHT. Observe each person for each category in the area only once. If an observed person reappears in the scan area, do not record a second time. Do not backtrack to count new people entering the area.
8. Determine what was involved in the **Recreation Activity**
9. Transfer these data to the SOPARNA Observation Form
10. Reset the counter.

11. Scan the target area for **Females** a second time. Use the counter to record the number of females by age and ethnicity groupings.
 - Use the top row of the counter to help with age grouping, with children on the left (chartreuse), teens (light green), adults (dark green), and seniors (gray). Use the second row of buttons for ethnicity, (White=Caucasian; tan=Latino, Black= African American, Yellow=other). For each person, code age first and then ethnicity.
11. Transfer these data to the SOPARNA Observation Form
12. Reset the counter.
13. Repeat Steps 5 through 13 for **Males**
14. Enter the **End Time** for the area scan.
15. Move to the next Target Area.



Recording Procedures for SOPARNA Path-Coding Form

1. A standard location (i.e., Coding Station) from which all counts on the path/trail are made is identified. This location should be before any forks in the path and within an appropriate distance to ensure counted recreations are using the trail (e.g., between 25 to 150 yards beyond the trailhead. At the **Coding Station**, determine a clear line (referred to as the **Coding Line**) across the trail. The activity level is determined as a recreationist crosses this line.
2. On the SOPARNA Observation Form, enter the **Date**, **RECREATION AREA ID**, **Observer ID**, **Period**, and **Target Area**.
 - If possible, complete this section prior to the start of the observation period.
3. Enter the **Start Time** for the area scan on the SOPARNA Observation Form.

4. Record the conditions for each area (Accessible, Usable, Supervised, Organized, Equipped, Dark, and Empty).
 1. If the area is “dark” or “empty,” complete the conditions and then move to the next Target Area. If one or more people are in the area, continue with Step 6.
5. Enter the **Start Time** and **End Time** on the Path Coding Form.
6. Count ALL people the moment they cross the *coding line* and record their characteristics on the Path Coding Form.
 - When two observers with counters are present during the scan, one counts for females and the other for males.
 - When recording data on the Path Coding Form, place a one (1) in each column that represents the individual characteristics (e.g., male, adult, Latino, walking).
7. Once time has expired, transfer the data from the Path Coding Form to the SOPARNA Observation Form.
 - Use CAUTION when transferring data onto the SOPARNA Observation Form. If time permits after the recreation site scans are completed, check the form for errors.
 - Attach the Path Coding Form to the SOPARNA Observation Form before submitting the data.
8. Move to next Target Area.



Recording Procedures for SOPARNA Drive-By Coding

Two assessors are involved in this data-collection procedure.

Assessor One: Drives vehicle at a steady 5 miles per hour, following the rules of the road.

Assessor Two: Observes and records data using the RECORDING PROCEDURES FOR TRAILS form.

The Drive-By Coding Procedure differs from RECORDING PROCEDURES FOR TRAILS in the following ways:

- ◆ The Coding Station is the moving vehicle in which assessors are located.
- ◆ There is no set Coding Line.

Directions for the passenger Observer:

1. On the SOPARNA Path Coding Form, enter the Date, RECREATION AREA ID, Observer ID, **Period**, and **Target Area**.
2. Complete this section prior to the start of the observation period.
3. Enter the **Start Time** for the area observation on the SOPARNA Path Coding Form.
4. Scan area from Left to Right and then from Right to Left, repeating this process until the end of the drive-by path is reached.
5. Count each person people the moment he/she becomes visible and record his/her characteristics on the Path Coding Form.
 - a. place a one (1) in each column to indicate the individual's characteristics (e.g., male, adult, Latino, moderate).
6. Enter the **End Time** for the area scan on the SOPARNA Path Coding Form.
7. Once time has expired, transfer data from the Path Coding Form to the SOPARNA Observation Form.
 - a. Use CAUTION when transferring data onto the SOPARNA Observation Form. If time permits after the recreation site scans are completed, check the form for errors.
 - b. Attach the Path Coding Form to the SOPARNA Observation Form before submitting the data.
8. Move to next Target Area.



Making Sense of SOPARNA Data

WHAT CAN BE DONE WITH SOPARNA DATA?

Depending on the unit of analysis (gender, area, period, park, etc.), raw counts in each activity level should be aggregated (sums or means) according to the variables of interest.

For Example: To calculate the most active areas for females and males at a Target Area on a given day, follow these 3 Steps:

- a. Reduce data. Calculate mean activity counts from the scan data to provide a single count for each activity level of females and males. For multiple scans, sum these counts across periods to compute a single TIME PERIOD count for each level of user activity.
- b. Sum across the recreation area observation day. Aggregating by area, calculate a mean for each activity level (females and males separately) across all four periods observed to arrive at single counts for females and males at each level of activity in each area. Repeat for age and gender groupings.
- c. Calculate energy expenditure rates. To estimate kilocalories/kg expended, the number of people counted in the sedentary, moderate, and very active categories are multiplied by the constants .051kcal/kg/min, .096kcal/kg/min, and .144kcal/kg/min, respectively. Kilocalories/kg from each category can be summed to provide a measure of the total kilocalories/kg expended by park users in a given area. These values can be interpreted as the number of kilocalories per kg of body weight per minute expended in each area during the observed day. These energy expenditure rates are dependent on the number of people observed. Assigned MET values can also be used (e.g., Sedentary=1.5; Moderate=3; Vigorous=6).



Sharing Your SOPARNA Data

CONTRIBUTE DATA TOWARDS A NATIONWIDE EFFORT

While traditional efforts to increase physical activity have focused on exercise-related activities and settings, more recently, natural environments such as open spaces, forests, wildlands, and wilderness areas have emerged as additions to the potential contexts for promoting physical activity

The President's physical fitness initiative suggests that natural resource management agencies need to be contributing to the health of the American public. By using the SOPARNA instrument, natural resource managers will be able to gather data relating to on-site physical activity measures in recreation areas. The data received from natural resource managers, nationwide, will be used for reporting towards the initiative.

Once the SOPARNA data is collected and processed, please send your results to:

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Example of the SOPARNA Data Collection Process

Observation Schedule

Cleveland National Forest, San Diego County, CA

Recreation Area	Target Area	Observation Time			SOPARNA Methodology
Laguna/El Prado Campground	1. Sunny Loop	900 am	1230 pm	400 pm	Drive-by Coding
	2. Meadow Loop	910 am	1240 pm	410 pm	Drive-by Coding
	3. Meadow	920 am	1250 pm	420 pm	Observation Form
	4. Amphitheater	930 am	100pm	430 pm	Observation Form
	5. Picnic Area	935 am	105pm	435 pm	Observation Form
Penny Pines	6. Noble Canyon Trail	1010 am	140 pm	500 pm	Path Coding
	7. Big Laguna Trail	1030 am	200 pm	520 pm	Path Coding
	8. Pacific Crest Trail	1050 am	220 pm	540 pm	Path Coding
Storm Canyon Vista	9. Lookout Point	1120 am	250 pm	610 pm	Drive-by Coding
	10. Pacific Crest Trail	1130 am	300 pm	620 pm	Path Coding
Pioneer Mail Picnic Area	11. Picnic Area	1200 pm	330 pm	650 pm	Observation Form

Observation Form Coding and Recording

Cleveland National Forest, San Diego County, CA

The observer arrives at the PIONEER MAIL PICNIC AREA 20 minutes prior to the official start of coding. The sequence for observing Target Areas is reviewed. Each Target Area is visited in order and the instructions are reviewed. The observer mentally rehearses by scanning the area a few times.

1. On the observation form, the observer records 7/10/2009 (**Date of observation**), PM (**Recreation Area ID of the site**), VS (**Observer ID**), Afternoon (**Period of day when observation is being conducted**), and 11 (**previously designated Target Area number**).
2. The observer records 12:00 PM (**Start Time of the observation/scan of the designated Target Area**).
3. The observer records the conditions for the area. It is observed that the picnic area is accessible to the public (**Accessible: YES**). The picnic area has usable space for physical activity (**Usable: YES**). The site does not provide any recreational equipment for physical activity (**Equipped: NO**). A park ranger is present at the site at the time of the observation (**Supervised: YES**). There are no recreation site staff-led organized physical activities taking place at the site (**Organized: NO**). There is ample daylight to permit active recreation and physical activity among visitors at the site (**Dark: NO**). There are three distinct groups of visitors in the picnic area (**Empty: NO**).
4. First, the **Females** within the target area are observed. For **Females**, the main activity in the target area is determined and recorded under **Primary Activity Type**. It is observed that except for a few female children, most of the females at the site are sitting on picnic benches and engaged in eating and/or talking. For the female **Primary Activity Type**, the observer circles 'R' for Sedentary Recreation.

5. The target area is scanned for **Females**. A scan of the target area is made from LEFT to RIGHT. Using the counter, each female is coded as either sedentary, moderate, or vigorous. The observer records the following using the counter: **6 Sedentary Females** (sitting/standing), **1 Moderate Female** (walking) and **2 Vigorous Females** (running around with a dog). If an observed person reappeared in the scan area, the person is not recorded a second time. The observer does not backtrack to count new people entering the area.
6. Under **Recreational Supports**, the observer circles '**D**' for the involvement of a **dog** in the recreation activity.
7. The observer transfers this data to the SOPARNA Observation Form.
8. The counter is reset.
9. The observer scans the target area for **Females** a second time. The counter is used to record the number of females by age and ethnicity groupings. The top row of the counter is used to record age grouping, with children on the left (chartreuse), teens (light green), adults (dark green), and seniors (gray). The second row of buttons is used for recording ethnicity, (White=Caucasian; tan=Latino, Black=African American, Yellow=other). For each person, age is recorded/coded first and then ethnicity. Using the counter, the following codes are recorded by the observer: **2 Children Females** and **7 Adult Females; 3 White Females** and **6 Latina Females**.
10. The observer transfers this data to the SOPARNA Observation Form.
11. The counter is reset.

12. Next, the **Males** within the target area are observed. For **Males**, the main activity in the target area is determined and recorded under **Primary Activity Type**. It is observed that except for two males, all other males at the site are sitting on picnic benches and engaged in eating and/or talking. For the male **Primary Activity Type**, the observer circles 'R' for Sedentary Recreation.
13. The target area is scanned for **Males**. A scan of the target area is made from LEFT to RIGHT. Using the counter, each male is coded as either sedentary, moderate, or vigorous. The observer records the following using the counter: **9 Sedentary Males** (sitting/standing), **2 Moderate Males** (walking) and **1 Vigorous Male** (running around with a dog). If an observed person reappeared in the scan area, the person is not recorded a second time. The observer does not backtrack to count new people entering the area.
14. The observer transfers this data to the SOPARNA Observation Form.
15. The counter is reset.
16. The observer scans the target area for **Males** a second time. The counter is used to record the number of males by age and ethnicity groupings. The top row of the counter is used to record age grouping, with children on the left (chartreuse), teens (light green), adults (dark green), and seniors (gray). The second row of buttons is used for recording ethnicity, (White=Caucasian; tan=Latino, Black=African American, Yellow=other). For each person, age is recorded/coded first and then ethnicity. Using the counter, the following codes are recorded by the observer: **1 Child Male** and **11 Adult Males; 2 White Males** and **10 Latino Males**.
17. The observer transfers this data to the SOPARNA Observation Form.
18. The observer records 12:05 PM (**End Time of the observation/scan of the designated Target Area**).
19. The observer moves to the next Target Area.

**EXAMPLE:
SOPARNA OBSERVATION FORM**

DATE 7/10/2009 RECREATION AREA ID # _____ PM _____ OBSERVER ID # _____ VS _____ PERIOD: Morning Lunch Afternoon

TARGET AREA 11 START TIME 1200 PM

Target Area # _____ Sub-target Area # _____

CONDITIONS OF TARGET AREA

Accessible (i.e., not locked or rented to others) Yes No
Usable (e.g., not excessively wet or windy) Yes No
Equipped (e.g., balls/Frisbees provided by park) Yes No
Supervised (i.e., park staff or leader present) Yes No
Organized (e.g., guided tour/activity, sport event) Yes No

Dark (i.e., insufficient lighting) Yes No
Empty (i.e., no one in area) Yes No
Recreation supports D H M N

Comments: _____

PEOPLE	ACTIVITY TYPE	ACTIVITY LEVEL			AGE GROUP					ETHNICITY			
		Sed	Mod	Vig	Child	Teen	Adult	Senior	W	L	B	O	
Female	F S G <input checked="" type="radio"/> O	6	1	2	2	0	7	0	3	6	0	0	
Male	F S G <input checked="" type="radio"/> O	9	2	1	1	0	11	0	2	10	0	0	

- Fitness Codes (F):** aerobics (dance/step aerobics) _____
 fitness stations _____
 walk/jog/run/hike/bike _____
 strengthening exercises (pull ups) _____
- Sport Codes (S):** baseball/handball _____ climbing/sliding _____
 basketball _____ volleyball _____
 cheer leading _____ soccer _____
 dance _____ tennis/racquet _____
 football _____ gymnastics _____
- Active Game Codes (G):** chess/checkers/cards/reading _____
 jumping (rope, hop scotch) _____
 manipulative/racquets/Frisbee _____
 play area/teetherball _____
 horseshoes/tag/chasing games _____
- Sedentary Recreation Codes (R):** lying down/standing/sitting _____
 picnic (food involved) _____
 hanging out/observing _____
- Other (O):** park maintenance _____
 ATV/motorized vehicle _____
 hunting/fishing/horseback riding _____
 bird-watching/photography/interpretive tours _____



SOPARNA Keywords

Coding Line: The line (real or projected) which individuals cross and are coded during SOPARNA Path Coding.

Coding Station: Specified location from which scans are conducted.

Condition: Descriptive characteristics (contextual variables) of a Target Area.

Counter: Device used to record data during park observations.

Observation Period: A predetermined period of time in which scans are conducted.

Primary Activity: The activity in which a majority of individuals are participating during the observation.

Scan: A single observation movement from left to right across a Target or Sub-target Area. During a scan, each individual in the area is counted and coded for activity level, age, and ethnicity.

Scan Space: The geographical area within a clearly defined and delineated Target or Sub-target Area.

SOPARNA: System for Observing Physical Activity and Recreation in Natural Areas. This research method is used to observe physical activity in natural areas (open spaces, forests, wildlands, and wilderness areas).

Sub-target Area: A subdivision of a predetermined Target Area. Sub-target areas are created for a specific observation time and apply only to the scan space during that specific observation period. Activity level and the number of people located in a Target Area determine whether Sub-target Areas are necessary during a given observation period.

Target Area: A predetermined observation area in which park users may potentially engage in physical activity. A number of Target Areas will be established for each park.



SOPARNA Special Coding Conventions

Unidentifiable Person. This coding situation applies IF a person is observed sleeping in the area, but cannot be seen directly (i.e., due to blankets, sleeping position, helmets, or clothing).

Gender: Code as “Male”

Activity: Code as “sedentary”

Age Group: Code as “Adult”

Ethnicity: Code based on the “majority” of park users in the neighborhood (i.e., if the community is primarily Latino, code as such).

Activity Level: Code as “Sedentary.”

Comments: In the comments section of the data form, write a notation indicating that one or more individuals could not be identified due to sleeping position.



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APPENDIX

SOPARNA PATH CODING FORM

DATE:

PATH ID:

OBSERVER ID:

START TIME:

END TIME:

	GENDER		AGE					ETHNICITY				ACTIVITY				
	Female	Male	Child	Teen	Adult	Senior	Latino	Black	White	Other	Sed	Walk	Vig	Bike	Horse	Vehicle
1																
2																
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SOPARNA

SYSTEM FOR OBSERVING PHYSICAL ACTIVITY AND
RECREATION IN NATURAL AREAS

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