11. IDENTIFICATION OF THE PREFERRED ALTERNATIVE AND THE ENVIRONMENTALLY PREFERRED ALTERNATIVE

11.1 THE PREFERRED ALTERNATIVE

The preferred alternative is the alternative that the National Park Service believes would best fulfill its statutory mission and responsibilities, based on the planning team's NEPA analysis and a separate value analysis, which considers the expected results compared to the estimated one-time costs of the alternatives.

Prior to selecting the draft preferred alternative, the multidisciplinary team members— including the park superintendent and a regional representative — review the analysis results, public comments, projected cost estimates, and management polices to ensure that the alternatives accurately reflect information prepared during the planning effort. Once they are satisfied that the range of draft alternatives is adequate, a value analysis process is used to compare the alternatives equally against the NPS mission and the primary issues identified during the scoping phase of planning. The questions to be answered are

- What and how large are the advantages of the differences between alternatives proposed for consideration?
- How important are the advantages of the differences between alternatives?
- Are those advantages worth their associated cost?

> Examine each question in terms of what is ethically and aesthetically right, as well as what is economically expedient.
>
> — Aldo Leopold

The draft preferred alternative may be one of the alternatives initially considered, a combination of elements from several alternatives, or an entirely new alternative.

Draft alternatives, including the recommended preferred alternative, are presented to the regional director by the park superintendent and the multidisciplinary team. Final approval of the alternatives, including selection of the NPS preferred alternative, is the responsibility of the regional director. In selecting the National Park Service's preferred alternative, the regional director may identify an alternative other than the one shown by the value analysis process to have the greatest value. Value analysis is only a tool to aid in decision making; other decision factors may influence the regional director's final selection. The rationale for why the alternative is preferred is included in the administrative record and eventually in the ROD for a GMP/EIS or in the FONSI for a GMP/EA. The process used and the rationale for selecting the preferred alternative can be included in the description of the GMP preferred alternative, in the introduction to the alternatives chapter, or in an appendix. The rationale needs to be clear to the public, future park managers, and decision makers as to why the alternative was selected.

If the preferred alternative is known by the time that a draft GMP/EIS is released for review, it should be identified in the text or in a cover letter. Identification of the preferred alternative helps the public focus its comments during review of the draft. If the preferred alternative is not identified, it could be construed that any or all alternatives would provide equal benefit in fulfilling the statutory mission and responsibilities of the National Park Service. The final GMP/EIS or a GMP/EA must identify the preferred alternative in the text.

It is important to remember that all alternatives in an EIS must be treated with the same level of detail in the analysis of impacts. The degree of analysis devoted to each alternative in the EIS is to be substantially similar to that devoted to the preferred alternative so that reviewers can effectively evaluate and compare alternatives. In addition, the EIS must be objective and not slanted to support the choice of the preferred alternative over the other reasonable and feasible alternatives.

The concept of the preferred alternative is different from the environmentally preferred alternative (see below).

11.1.1 The Process for Selecting a Preferred Alternative

The National Park Service plans for one purpose — to ensure that the decisions it makes will carry out its mission as effectively and efficiently as possible. The NPS mission is twofold, as defined in its Organic Act:

> to promote and regulate the use of the . . . national parks . . . which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.
>
> —The National Park Service Organic Act (16 USC 1)

The character of this mission for the National Park Service is grounded in achievements related to nonmonetary benefits. For example, what is the value of sitting in solitude and contemplating a sunset over the rim of the Grand Canyon, the value of hiking through the Narrows in Zion Canyon, or the value of viewing the Liberty Bell and contemplating the origins of our country? How do you measure such advantages; how do you put value on them in terms of dollars? How are value methods used in this process?

In 1996 the National Park Service began using the Choosing by Advantages (CBA) method to bring "benefit-to-cost" decision making to bear on the NPS construction priority setting process. This was in response to Congress emphatically telling the National Park Service to develop a more "overtly objective" priority setting system that weighed both benefits and costs.

Experience has shown that CBA provides sound methods for making decisions and more clearly documents rationale and benefit-to-cost trade-offs than the traditional weighted factor decisions. Today CBA is consistently used as an evaluation method for NPS decision makers, particularly when confronted with decisions that must be evaluated relative to nonmonetary benefits between alternatives. The CBA evaluation gives the multidisciplinary team shared knowledge about what attributes of the

alternatives the agency and stakeholders value. Using this knowledge makes it possible to craft and create a preferred alternative that in many cases provides more advantages to the National Park Service for a lesser investment.

While CBA has been the primary decision-making methodology used by the National Park Service, other decision making methodologies may be used as long as the relationship between results and costs is used to identify the alternative with the greatest value and to inform the decision. For each alternative, the question should be asked, "Is the difference in the results of this alternative compared to the other alternatives worth the difference in the cost?" Other elements include the following:

- considering all viable alternatives
- fully considering the factors used to evaluate the alternatives and ensuring that they are sound and related to the issues identified during scoping
- testing all alternatives equally against these factors
- ensuring that solutions are cost-effective
- benefit-to-cost relationships
- considering public comments and perspectives

Regardless of the decision-making process employed, it is important that the regional director's selection of a preferred alternative be based on an analysis that compares the relative advantages of all the alternatives and determines whether the anticipated advantages justify the estimated costs, among other things. It is also vital to document the rationale as to why the preferred alternative was selected.

11.1.2 Choosing by Advantages

CBA focuses on the differences between alternatives. Elements that are the same for each alternative will make no difference in the selection of the preferred alternative and are therefore not considered. This process allows the multidisciplinary team to focus discussion on the areas where there are truly differences among alternatives for park management.

CBA does not "weight" factors in advance, so that some factors are automatically more important than others. This eliminates the ungrounded debate on whether resources or visitors are more important. Rather, CBA focuses on the differences between alternatives and determines how important those advantages are. The process establishes a single scale that compares the importance or benefits of each alternative. The results reflect total benefits of the alternatives to the National Park Service with regard to achieving the agency's mission. Cost is then introduced to the evaluation process, establishing an importance-to-cost ratio. This allows a planning team to identify which alternative or components of alternatives provide the greatest benefit for each dollar spent.

CBA is a decision-making system based on the following principle: Any difference between two alternatives can be viewed as an advantage for one alternative or as a disadvantage for the other alternative. Theoretically, if a difference is an advantage for one alternative and a disadvantage for the other alternative, we would be double

counting that difference. To simplify and clarify the decision-making process, CBA lists each difference just once — as an advantage. Decisions are then based on determining the advantages of different alternatives for a variety of factors. The advantages, not the factors, are then weighed and summarized to help identify the preferred alternative. One of the greatest strengths of the CBA system is its fundamental philosophy: Decisions must be anchored in relevant facts. For example, the question, "Is it more important to protect natural resources or cultural resources?" is "unanchored" — it has no relevant facts on which to make a decision. Without such facts, it is impossible to make a defensible decision. The CBA process instead asks, "Which alternative gives the greatest advantage in protecting natural resources and processes?" and "Which alternative gives the greatest advantage in protecting cultural resources?" Then the advantages for each of these questions are compared. A multidisciplinary team may find that the differences in advantages for natural resource protection are relatively minor, while the differences between alternatives for cultural resources are substantial. This exercise greatly simplifies decision making by focusing on facts rather than values. By using a value analysis process such as CBA, the planning team can establish a logical, trackable linkage between the factors used to identify the preferred alternative and the major tradeoffs among the alternatives.

CBA uses a set of terms and definitions based on dictionary definitions. It is important to understand these terms and use them correctly and consistently when using this process. An example, "A group is going camping and will make a decision about which campsite to choose using CBA," is presented here to explain these terms and their use in CBA. Table 11.1 gives the CBA definition on the left and an example of choosing a campsite on the right to illustrate the terms.

TABLE 11.1: AN EXAMPLE OF HOW THE CBA PROCESS IS USED

Topic considered: A group will use CBA to decide which campsite to select.

CBA Definition	Example: Selecting a Campsite
FACTOR: An element, or a component, of a decision that describes differences between the alternatives. Factors are never weighted.	Factors: • water • tent spot • table • privacy It is not appropriate to decide that one of these factors is more important than the other. You need more facts about the conditions at the sites, and you need to consider the importance of the differences (advantages).
ATTRIBUTE: A characteristic, quality, or consequence of ONE factor in ONE alternative.	Attribute for the factor of water Site 8 is 60 feet away Site 19 is 260 feet away Site 23 is 150 feet away The attribute describes the situation regarding the factor water for each alternative (no values applied yet).
ADVANTAGE: A favorable difference between the attributes of TWO alternatives. Without exception, the disadvantage of one alternative is the advantage of another. A good description of an advantage is key to explaining the decision to others.	Advantage of the water factor: Site 8 is 200 feet closer Site 19 has no advantage Site 23 is 110 feet closer The least preferred water attribute is site 19 because it is farthest from water, so it has no advantage. The other alternatives are compared to this site. The closer the site is to water, the greater the advantage.

There are five basic steps in the CBA decision-making process.

1. Summarize the **ATTRIBUTES** of each alternative.
2. Decide the **ADVANTAGES** of each alternative.
3. Decide the **IMPORTANCE** of each advantage.
4. Weigh **COSTS** with **TOTAL IMPORTANCE** of the advantages.
5. **SUMMARIZE** the decision.

The following discussion demonstrates how the CBA analysis will help the camper make a campsite selection.

Step 1. Summarize the ATTRIBUTES of Each Alternative

The attributes in our example are shown in the following table. Note that only a description of the condition is recorded in the attribute cells. No values have been applied. A common mistake in developing the attributes is to compare the attributes rather than to just describe the condition. For example, "Site 8 is much more level than site 23." Comparisons between the alternatives are a later step.

TABLE 11.2: HOW TO SUMMARIZE THE ATTRIBUTES IN A CBA PROCESS

	Alternatives					
Factor	**Site 8**		**Site 19**		**Site 23**	
Factor 1 — Water						
Attributes	60 feet away		260 feet away		150 feet away	
Advantages						
Factor 2 — Tent Spot						
Attributes	Moderately level		Almost level		Quite sloping	
Advantages						
Factor 3 — Table						
Attributes	No table		No table		Table	
Advantages						
Factor 4 — Privacy						
Attributes	Close sites near road		Screened distant sites		Screened close sites	
Advantages						
Total Importance of Advantages						

Step 2. Decide the ADVANTAGES of Each Alternative

To determine where the advantage lies, it is important that the group share an understanding of what attribute provides an advantage. For example, the group must agree that being closer to water provides more advantage than being farther away because water is heavy, and carrying water the shorter distance provides the greatest advantage. Good descriptions of the advantages are important — they will be used later to summarize the rationale for the decision.

The least preferred attribute is underlined for each factor, and then the advantages of the other alternatives are described relative to the least preferred attribute. There is no advantage for the least preferred attribute, so leave it blank.

TABLE 11.3: DECIDING THE ADVANTAGES

Factor	Alternatives		
	Site 8	Site 19	Site 23
Factor 1 — Water			
Attributes	60 feet away	260 feet away	150 feet away
Advantages	200 feet closer		110 feet closer
Factor 2 — Tent Spot			
Attributes	Moderately level	Almost level	Quite sloping
Advantages	Moderately more level	Much more level	
Factor 3 — Table			
Attributes	No table	No table	Table
Advantages			Table versus no table
Factor 4 — Privacy			
Attributes	Close sites, near road	Screened, Distant sites	Screened, Close sites
Advantages		Much more privacy due to screening and remoteness	Moderately more privacy due to screening
Total Importance of Advantages			

Step 3. Decide the IMPORTANCE of Each Advantage

There are four considerations for deciding importance:

1. *The purpose and circumstances of the decision*
2. *The needs and preferences of the users and stakeholders* — Those affected by and interested in the decision.
3. *The magnitudes of the advantages* — Are the differences in the advantages relatively minor or are there clearly substantial differences?
4. *The magnitudes of the associated attributes* — How do the attributes compare?

After you analyze the four considerations for your campsite, circle the most important advantage for each factor.

TABLE 11.4: DECIDING THE IMPORTANCE OF EACH ADVANTAGE

Factor	Alternatives		
	Site 8	Site 19	Site 23
Factor 1 — Water			
Attributes	60 feet away	260 feet away	150 feet away
Advantages	200 feet closer		110 feet closer
Factor 2 — Tent Spot			
Attributes	Moderately level	Almost level	Quite sloping
Advantages	Moderately more level	Much more level	
Factor 3 — Table			
Attributes	No table	No table	Table
Advantages			Table versus no table

Factor	Alternatives		
	Site 8	Site 19	Site 23
Factor 4 — Privacy			
Attributes	Close sites, near road	Screened, distant sites	Screened, close sites
Advantages		Much more privacy due to screening and remoteness	Moderately more privacy due to screening
Total Importance of Advantages			

Select the paramount advantage — the most important of the important advantages. This is not the most important factor; rather it is the most important advantage (difference) of the alternatives. This will be the benchmark by which the importance of all other advantages is weighed. This decision requires a thoughtful discussion by the multidisciplinary team and consideration of purpose, significance, stakeholders' interests, etc. This is one of the challenging parts of the process, largely because it requires such careful thought, discussion, and documentation.

A useful technique is to use the "defender/challenger" method. Ask the group, "Which advantage is more important in this decision, the advantage in x (select one of the factors — it doesn't matter which one) or the advantage in y (select another factor — again it doesn't matter which one since you will be examining all the factors)?" Once one advantage is identified, then ask the group again "Which advantage is more important in this decision, the advantage in x (state the factor that was selected in the first question)" or the advantage in z (select another factor)?" Continue with this process until a paramount advantage is determined. Note that you are comparing the advantage for each factor, not the factors themselves.

Once you have selected the paramount advantage, assign an importance score of 100 to establish a scale of importance for the decision. The score for the paramount advantage is a benchmark for the rest of the process.* This benchmark is the highest score, and the basis of comparison for all other advantages. For the example you would be considering "200 feet closer" versus "much more level" versus "table versus no table" versus "much more privacy due to screening and remoteness."

TABLE 11.5: DECIDING THE PARAMOUNT ADVANTAGE

Factor	Alternatives		
	Site 8	Site 19	Site 23
Factor 1 — Water			
Attributes	60 feet away	260 feet away	150 feet away
Advantages	200 feet closer		110 feet closer
Factor 2 — Tent Spot			
Attributes	Moderately level	Almost level	Quite sloping
Advantages	Moderately more level	Much more level	

* The number could be 10 or 200. You just need to get enough of a spread to express the differences. Most groups are comfortable with 100.

Factor	Alternatives					
	Site 8		Site 19		Site 23	
Factor 3 — Table						
Attributes	No table		No table		Table	
Advantages					Table versus no table	
Factor 4 — Privacy						
Attributes	Close sites, Near road		Screened, Distant sites		Screened, Close sites	
Advantages			Much more privacy due to screening and remoteness	**100**	Moderately more privacy due to screening	
Total Importance of Advantages						

Decide the IMPORTANCE of each remaining most important advantage. Weigh the importance of each remaining most important advantage, compare directly or indirectly with the paramount advantage. All the advantages must be weighed on the same scale of importance. Continue to score the most important advantage for each factor, relative to the paramount advantage and to each other. These multidisciplinary discussions are at the heart of good decision making. It is important to record the discussions and rationale for assigning importance. This will help you to explain your decision later. For the campsite example, you must consider how important "200 feet closer," "much more level," and "table versus no table" are, compared to the paramount advantage of "much more privacy due to screening and remoteness."

TABLE 11.6: DECIDING THE REMAINING IMPORTANT ADVANTAGES

Factor	Alternatives					
	Site 8		Site 19		Site 23	
Factor 1 — Water						
Attributes	60 feet away		260 feet away		150 feet away	
Advantages	200 feet closer	**40**		0	110 feet closer	30
Factor 2 — Tent Spot						
Attributes	Moderately level		Almost level		Quite sloping	
Advantages	Moderately more level		Much more level	**70**		
Factor 3. — Table						
Attributes	No table		No table		Table	
Advantages					Table versus no table	**65**
Factor 4 — Privacy						
Attributes	Close sites, near road		Screened, distant sites		Screened, close sites	
Advantages			Much more privacy due to screening & remoteness	100	Moderately more privacy due to screening	
Total Importance of Advantages						

In deciding the importance of each remaining advantage, the weight assigned to the most important advantage for a particular factor provides the benchmark for

weighing the other advantages within that factor, and those advantages must be equal to or less than the most important advantage for that factor. The least important advantage (identified by an underline in these examples), receives a 0, regardless of the benchmark weight for the most important advantage. All other advantages within that factor are then weighted between zero and the weight assigned to the more important advantage. If advantages are identical, they would receive the same weight. In the campsite example note that neither site 8 nor site 19 has a table. Since this is the least preferred attribute for factor 3, both would be weighted at zero.

TABLE 11.7: DECIDING THE OTHER ADVANTAGES

Factor	Alternatives					
	Site 8		Site 19		Site 23	
Factor 1 — Water						
Attributes	60 feet away		260 feet away		150 feet away	
Advantages	200 feet closer	40		**0**	110 feet closer	**30**
Factor 2 — Tent Spot						
Attributes	Moderately level		Almost level		Quite sloping	
Advantages	Moderately more level	**30**	Much more level	70		**0**
Factor 3 — Table						
Attributes	No table		No table		Table	
Advantages		**0**		**0**	Table versus no table	65
Factor 4 — Privacy						
Attributes	Close sites, near road		Screened, distant sites		Screened, close sites	
Advantages		**0**	Much more privacy due to screening & remoteness	100	Moderately more privacy due to screening	**45**
Total Importance of Advantages						

Once you have assigned importance scores for each of the advantages, it is important to cross check your logic to ensure that you have made consistent decisions. For instance, is an importance score of 30 for site 23 under factor 1 equal to the importance score of 30 for site 6 in factor 2? If you find that these appear inconsistent, you may want to continue group discussions and adjust the importance scores. Once the group is satisfied that the importance scores have been assigned consistently, total the importance scores for each of the sites.

TABLE 11.8: TOTALING THE ADVANTAGES

Factor	Alternatives					
	Site 8		Site 19		Site 23	
Factor 1 — Water						
Attributes	60 feet away		260 feet away		150 feet away	
Advantages	200 feet closer	40		0	110 feet closer	30
Factor 2 — Tent Spot						
Attributes	Moderately level		Almost level		Quite sloping	
Advantages	Moderately more level	30	Much more level	70		**0**

Factor	Alternatives					
	Site 8		Site 19		Site 23	
Factor 3 — Table						
Attributes	No table		No table		Table	
Advantage		0		0	Table versus no table	65
Factor 4 — Privacy						
Attributes	Close sites, near road		Screened, distant sites		Screened, close sites	
Advantages		**0**	Much more privacy due to screening and remoteness	100	Moderately more privacy due to screening	**45**
Total Importance of Advantages		**70**		**170**		**140**

If all costs are equal, you would choose the alternative with the greatest total importance of advantages. In the example, if the campsite fees were the same regardless of the site, our campers would select site 19 because it has the greatest advantages.

Step 4. Weigh COSTS with TOTAL IMPORTANCE of Advantages

If costs are not equal, then the multidisciplinary team must determine if the total importance of advantages increase significantly with higher cost alternative. This is an evaluation of value on whether the additional benefits justify the cost.

For the campsite example, assume that the campground operators knew that some sites were more desirable than others and that they could charge more based on site desirability. Would our camper still make the same decision?

TABLE 11.9: WEIGHING COSTS WITH TOTAL IMPORTANCE OF ADVANTAGES

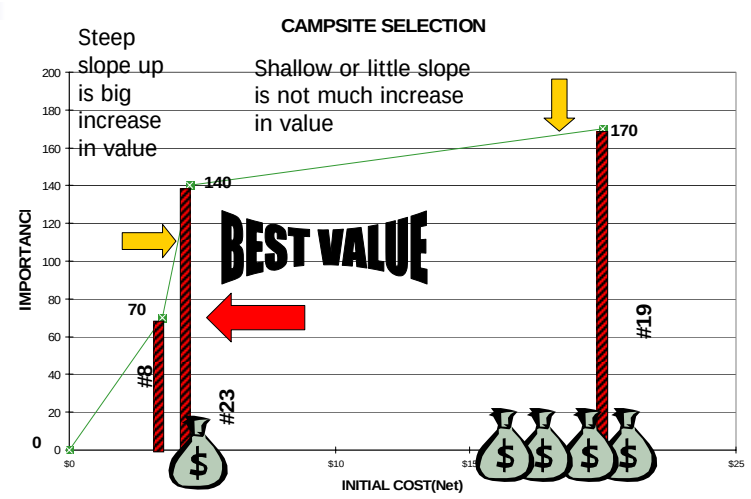
Factor	Alternatives					
	Site 8		Site 19		Site 23	
Factor 1 — Water						
Attributes	60 feet away		260 feet away		150 feet away	
Advantages	200 feet closer	**40**		**0**	110 feet closer	**30**
Factor 2 — Tent Spot						
Attributes	Moderately level		Almost level		Quite sloping	
Advantages	Moderately more level	**30**	Much more level	**70**		**0**
Factor 3 — Table						
Attributes	No table		No table		With	
Advantages		**0**		**0**	Table versus no table	**65**
Factor 4- — Privacy						
Attributes	Close sites, Near road		Screened, Distant sites		Screened, Close sites	
Advantages		**0**	Much more privacy due to screening and remoteness	**100**	Moderately more privacy due to screening	**45**
Total Importance of Advantages		**70**		**170**		**140**
Total Cost per Night		**$3**		**$20**		**$4**

In the example, site 8 received the lowest importance score of 70 but it is also the lowest cost. Site 19 received the highest importance score of 170, but is the importance of advantages worth six times the cost of site 8? Site 23 received an importance score of 140 and has a quite low cost, but still has many advantages.

Importance-to-Cost Graph

Graphing the importance-to-cost data provides a visual way to assist in decision making. A steep slope upward indicates that there is a great increase in the total importance of advantages for not much more money, and hence may be a good value. A shallow slope, no slope, or a decreasing slope indicates that although a lot more money is being spent, there is not a corresponding increase in the importance of advantages, and therefore it is not a good value.

FIGURE 11.1: IMPORTANCE-TO-COST GRAPH



CBA does not make the decision; it merely informs the decision. In the example of the campers, they may still choose the campsite with the greatest advantage if they do not mind spending five times as much ($20) as the next best site ($4). If the campers are on a limited budget, perhaps they would choose site 23 that provides a considerable amount of advantage at substantially less cost than site 19.

While CBA results can inform the selection of a preferred alternative, common sense has to prevail. At this step you should step back and reconsider the decision. Does this decision make sense? Are there additional alternatives? Does this decision represent the viewpoints of stakeholders? Were there mistakes made in the process? Are there adjustments that need to be made to factors, advantages, importance scores, etc.?

This is also an opportunity to improve the preferred alternative. It may be possible to bring in some of the best advantages of alternatives not selected. Be careful if cost is important; you must determine if adding the advantages from other alternatives is worth any increase in cost.

Step 5. SUMMARIZE the decision

Use the advantage statements and notes from the discussion to help summarize why you selected the alternative. Develop key statements and a summary so any member of the team can succinctly explain the decision. For the "selecting a campsite" example you might record:

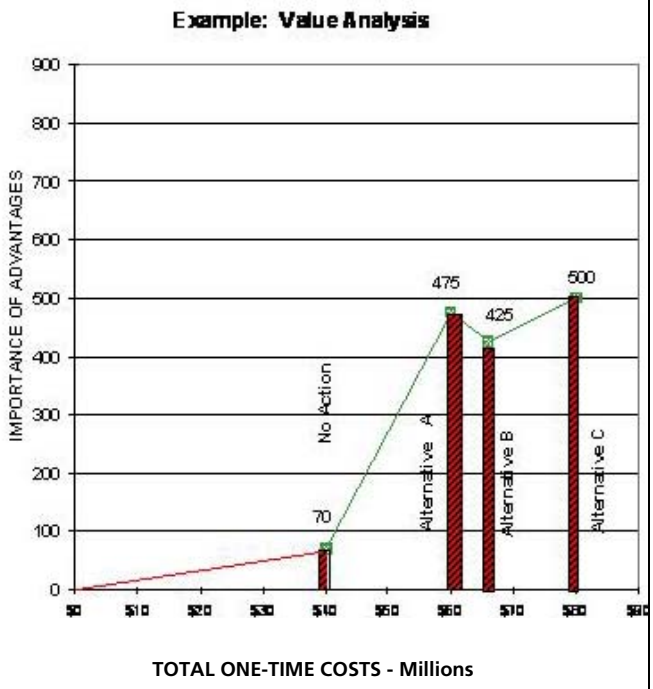
> Campsite 23 was selected because it has the following advantages:
>
> - moderately more private
> - 110 feet closer to water
> - has a picnic table (other sites do not)
> - greatest value — strong advantages at a reasonable cost
>
> Although the site is quite sloping, the advantages listed above are more important.

If cost was NOT important in this decision, the preferred alternative would have been site 19 because it had the greatest total advantage of importance — it was much more level and has much more privacy, and you are willing to pay an extra $16 for those advantages even though it is the farthest from water and does not have a picnic table.

11.1.3 Suggested Tools and Methodology for Using the CBA Process

Suggested Tools	Methodology
☑ When to use CBA.	Any decision process can be de-railed by those who willfully want to get their own way. If you can clearly articulate why your preferred alternative is the best and can defend that to the public, you may not want to invest the time necessary to complete a CBA process. If you need a decision anchored in the relevant facts and want a defensible decision, invest in the CBA process and contribute your expertise and values to the collaborative effort of the team.
☑ Commitment to a common goal.	Healthy debate is at the core of this process, but to move through it there must be some compromises. A willingness to work toward consensus is key to a successful outcome.
☑ Develop adequate information.	Prior to conducting a CBA process, the planning team should have a general knowledge of the anticipated results (particularly in terms of fundamental resources and values), the environmental impacts, and one-time costs of each alternative. This information will be developed as part of the desired conditions (see Chapter 7), the assessment of impacts (see Chapter 10), and the cost estimates (see Chapter 9).

Suggested Tools	Methodology
☑ Convene the full interdisciplinary planning team with a facilitator skilled in CBA to conduct the process.	Although CBA is a fairly straightforward process, it is recommended that a facilitator with prior CBA experience be enlisted to guide the planning team through the process. This ensures the process is correctly applied so that the resulting decisions are defensible. A CBA facilitator who has not been part of the planning process also would likely be neutral and could avoid any bias that might have developed during planning.
☑ Identify important factors.	A factor is an element or a component of a decision — it is a difference between the alternatives. Examples of factors could be how each alternative • preserves or enhances fundamental resources or values • maximizes diversity of visitor experiences • prevents loss of resources • maintains or improves the condition of resources • provides visitor services and educational and recreational opportunities • protects public health, safety, and welfare • improves operational efficiency and sustainability • protects employee health, safety, and welfare • provides other advantages to the national park system
☑ Describe the attributes of the alternatives.	An attribute is a characteristic or consequence of one factor in one alternative. Table 11.10 illustrates two factors and a sample portion of the attributes to provide an idea of the process. A common mistake is to describe the advantage using comparative terms rather than describe the characteristic. For example, do not say "more options to access the cliffs and beaches"; rather say "provides two points of access to the cliffs and beaches."
☑ Decide which alternative provides the greatest amount of importance for each factor.	There are four considerations to be used when deciding importance: • *The purpose and circumstances of the decision* — For general management plans this relates to how the advantage helps support park purpose and maintains its significance and fundamental resources. • *The needs and preferences of the users and stakeholders* — This relates to those affected by and interested in the decision. This is where the public involvement and civic engagement information is represented in the preferred alternative decision making. • *The magnitudes of the advantages* — Are the differences in the advantages relatively minor or are there clearly substantial differences between the advantages of the alternatives? • *The magnitudes of the associated attributes* — How

Suggested Tools	Methodology
	do the attributes compare? Are your proposed actions potentially affecting a couple of elk from a vast herd or are your proposed actions potentially affecting one of the only three known grizzly bears in the park? A sample template for this exercise is included in Appendix J.1, and an example of a completed template for a GMP is included in Appendix J.2.
☑ Graph the total score representing the importance of advantages with the total one-time costs to illustrate the relative value of each alternative.	
☑ Check the work to ensure that it has identified the alternative that offers the best value.	A step in the CBA process, called reconsideration, specifically addresses this point.
☑ Document the process.	The details of the CBA process, including the factors used to identify the preferred alternative, should be documented in the administrative record. If needed, the specifics of the CBA process can be included in an appendix to the GMP/EIS or GMP/EA.

Reference: For additional guidance for using the CBA method see:

http://construction.den.nps.gov/va5.cfm

TABLE 11.10: EXAMPLES OF ATTRIBUTES USED IN THE CBA PROCESS

Factor 1: Provides convenient access to significant park features		
Alternative 1	**Alternative 2**	**Alternative 3**
Attribute: Cliffs and beaches approachable by **motorboat and kayak** from Lake Tranquil.	*Attribute:* Cliffs and some beaches from Lake Tranquil approachable by **motorboat and kayak**, but **most of Solitude Beach not approachable by motorboat.**	*Attribute:* Cliffs and most beaches approachable from Lake Tranquil by **kayak only**.
*Advantage: V*ery good unrestricted access for motorboats and kayaks.	*Advantage:* Very good unrestricted access for kayaks, good access for motorboats from Lake Tranquil except for no motorboat access Solitude Beach.	*Advantage:* No advantage statement would be listed. (Identified as the least preferred attribute since the factor describes "convenient access to significant park features" and one user group is excluded. The difference in the visitor experience (kayakers experience cliffs and beaches without noise and wakes from motorboats) would be evaluated under another factor. This factor examines access only.)
Factor 2: Protects natural resources and processes		
Alternative 1	**Alternative 2**	**Alternative 3**
Attribute: Wetland function **enhanced** near lower loop of Thunder Ridge campground and road to Nowhere.	*Attribute:* **Opportunity to restore** local wetlands when Thunder Ridge campground redesigned.	*Attribute:* **Possible new wetland degradation** from new road to Nowhere and new Bomar campground construction.
Advantage: Somewhat better wetland protection in previously disturbed wetland area.	*Advantage:* Much better resource and process protection as well as wetland restoration.	*Advantage:* No advantage statement would be listed. (Identified as the least preferred attribute since the factor is "protecting natural resources and processes" and the attribute describes new impacts to wetlands in two areas.)

11.2 THE ENVIRONMENTALLY PREFERRED ALTERNATIVE

After the environmental analysis has been completed for all alternatives, an environmentally preferred alternative must be identified and described. The description is included as a separate heading toward the end of the alternatives chapter.

The environmentally preferred alternative is the alternative that will promote the national environmental policy as expressed in NEPA (sec. 101(b)):

(1) Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.

(2) Assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings.

(3) Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.

(4) Preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice.

(5) Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities.

(6) Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

The text should state which alternative is the environmentally preferred alternative and describe why in terms of the six criteria above. More specifically, the text should compare and contrast the alternatives as to how well each achieves the six goals. While fairly general, these goals address more than resource protection and include aspects of visitor use, recreational opportunity, etc. For example, goals 3, 4, and 5 speak of attaining "the widest range of beneficial uses"; supporting "diversity and variety of individual choice"; and achieving "a balance between population and resource use" and "a wide sharing of life's amenities." Identification of the environmentally preferred alternative may involve difficult judgments, particularly when one environmental value must be balanced against another, but by identifying the environmentally preferred alternative, NPS decision makers and the public are clearly presented with the relative merits of choices among the alternatives.

There is no requirement that the NPS preferred alternative and the environmentally preferred alternative be the same, although they usually are. Theoretically a planning team could identify as the NPS preferred alternative an alternative that has fewer environmental advantages than the environmentally preferred alternative. For example, the removal of a historic structure that is harming natural resources might be the environmentally preferred alternative. But the NPS preferred alternative might be to preserve the structure, recognizing that even with mitigation measures the alternative would not be as beneficial to the environment as would removal.

In cases where the environmentally preferred alternative and the NPS preferred alternative are not the same, the planning team may receive scrutiny and questions from both other NPS offices and from the public as to why the environmentally preferred alternative is not the agency's preferred alternative. The rationale for selecting such an alternative would need to be compelling and well-documented.

See Appendix J.3 for examples of descriptions of the environmentally preferred alternative.

Reference: *The DO-12 Handbook* (sec. 2.7.D and 4.5.E.9)