

Chapter Ten

Tools in the Toolbox: Management

Noise isn't Cool to Those Who Make the Rules

This chapter covers general strategies and tools available to managers. Like the Great Trail Continuum, management has its own sub-continuum: implement, evaluate, make changes, re-evaluate. It never stops. If it does stop, management could fail, the project could fail, and the riders could lose another place to ride.

Adaptive Management

The sub-continuum of implement, evaluate, make changes, and re-evaluate is called adaptive management. A trail is placed in a dynamic environment, and change of some type is inevitable. The need for trail changes should be anticipated in the planning process, and it is to the managers' advantage to include adaptive management verbiage in the initial environmental document.



Vegetation is your friend. Catastrophic events like this may necessitate changes in trail location or design.

There are several adaptive management tools available, including mitigations, restrictions, relocation, reconstruction, using existing infrastructure, entrance management and, when necessary, closure.

Closure Options

There are many closure options available to managers, each with a different focus and effect. Before any closure is implemented, ensure that there is sound justification, that there is an implementation and education plan utilizing the 4Es, and that the ramifications of the action are thoroughly examined. Riders will get displaced. Where will they go and what impacts will occur? Is there adequate personnel and funding for enforcement? Will the closure damage relationships with partners? For every action, there is an equal and opposite reaction. If a trail gets closed, there will be a reaction. Plan for it and be prepared to manage it.



Catastrophic events can also create opportunities. This is a good time to step back and re-think this old road-to-trail conversion. A serpentine alignment would fit the landscape better and enhance the rider experience.

Permanent Closure. To protect resource values or public safety, permanent closure is certainly a management tool. There are sensitive areas that need to be protected and there are non-sustainable trails that cannot be made sustainable. Closure is often seen as the easiest and cheapest management option. While it is the quickest option, it is often not the easiest or the cheapest in the long run. Displaced riders will need to go someplace. This could over-tax the few riding areas that are left, causing resource damage and conflicts.

A key point is, whenever possible, managers should not close something before opening something else of equal or greater mileage, quality, seat time, etc. When riders realize that they can still get from Point A to Point B or have a new higher-quality opportunity, compliance with the closure will significantly increase.

Sticking up a sign or a barrier to close a trail is not effective application of the 4Es. Engineering an effective closure should include a barrier, signing, and ripping and disguising of existing routes. Education regarding the rationale for the closure should be posted on the map, kiosk, websites, and other media as appropriate.

Emergency Closure. Management can implement an emergency closure any time there is extraordinary risk to public safety or resource protection. This could be due to an active forest fire, a severe weather event, or protection in the aftermath of those events.

Temporary Closure. A temporary closure is not recurring and can be used for maintenance, trail reconstruction, extreme fire danger, vegetation management activity, to protect the trails from damage when the trail treads are saturated, for range or livestock activities, for a special use permitted event, etc. When a change in trail use is not permanent and not recurring, it now becomes critical to successfully implement the 4Es. The word must quickly get out on the ground and in the media.

Temporal Restriction. A temporal restriction can be used to separate trail uses and users who are having difficulty being compatible with each other. An example could be that a trail is open for OHVs one week and open to hikers the next week. Here, the manager is placed in a position of conflict management and it will only be successful if: a) there is total agreement with all trail users that this is what they really want; b) if both or all trail groups are treated equally; c) if all share equally in the trail maintenance; d) if all groups commit to self-policing themselves; and e) if the 4Es are successfully implemented. This management option is an intermediate option between a trail being open to all groups and a trail being closed to one group. Most managers choose not to take this step because of the complexity of education and enforcement.



Tip, Trick or Trap?

Tip: With any closure or restriction, as the strength of the justification or rationale increases, compliance with the restriction increases.



This is a good example of closure tools; ripping, blocking, seeding, and signing. The Stay on Trail or Stay Home sign is a great sign, but it sends a confusing message here. Is the rider supposed to stay on the open trail or the closed trail?



This is a good example of a temporary closure. It would be better if the sign stated the reason for the closure to increase compliance.

Mitigations

Mitigation measures reduce the potential impact or the risk of impact. A seasonal closure is a mitigation measure to reduce the risk of impacts during a certain time period. Some resources like marshes, riparian areas, or subsurface cultural sites need to be avoided temporarily, but don't have to be avoided year-round. Mitigations can allow or restrict trail access while minimizing risk to a resource.

Seasonal Closure. A seasonal closure is a recurring closure that regulates vehicle access. The three main uses are: 1) wildlife related, including big game winter range, fawning or calving season, and nesting season; 2) soil related, including closures during spring break-up or fall freeze-up; and 3) vehicle related, including closures to wheeled vehicles to allow access for over-snow vehicles. Any time there is a change in vehicle access, the effective use of the 4Es, especially education (signing, mapping, etc.), becomes more essential to ensure successful implementation.



This seasonal closure is well signed with an explanation of the reason for the closure. However, if the trail is too wet for motorized use, is it really dry enough for equestrian and foot traffic?



A Forest Service resource specialist shows club members a sensitive plant population and explains why it has to be avoided.

an existing trail. Rather than implement avoidance, why did the bird choose to nest there and will the OHV trail negatively affect a bird which nested near its activity? These could be answered through monitoring if the manager and the resource specialist are comfortable with the risk.

One issue with monitoring is that there must be the budget, skilled personnel, and time for the personnel to perform the monitoring. When budgets get tight, monitoring is often the first thing to get put on hold. As personnel come and go, monitoring plans can sit on the shelf and fall through the cracks of implementation. In trail management and monitoring it is important that managers do what they say they are going to do in order to build trustful working relationships. That doesn't stop at planning, it follows through the whole Great Trail Continuum.

Avoidance. When a sensitive resource is encountered, sometimes the easiest option is just to avoid going there. This usually simplifies the environmental analysis and minimizes risk to the resource. If the resource can't be avoided, use of design, structures, or other tools may provide adequate mitigation.

Monitoring. Sometimes monitoring can be used as a mitigation. A trail tread depth, for example, could just be monitored. When and if it gets down close to the depth of the resource, then trail hardening or structures could be implemented as additional mitigation.

Monitoring can be used to gain knowledge. Perhaps a sensitive or potentially sensitive bird decides to make a nest adjacent to



A soil scientist measures changes in tread depth and width. This monitoring ceased after it was determined that recreation use had no effect.

Interpretation. Sometimes, interpretation can be used as a mitigation measure. With interpretation comes potential risk to the site since people will be stopping and spending time there rather than riding through. But interpretation is education and that has value. The thought process is

that some risk will be accepted here, and by educating the public, there will be reduced risk elsewhere. Sometimes people will give more respect to a high quality area that has interpretation than to an area where they don't understand the value of the surroundings. Interpretation can be expensive, but it is a valuable tool and one that is not used often enough on OHV trail systems. Interpretation enhances the rider experience, extends the length of that experience, and can help protect the resource.



This mining site with cabins and equipment has been beautifully restored and interpreted. The public appreciates and respects quality and that equates to education, compliance, and reduced risk of vandalism. Riders can spend an hour here and significantly enrich their experience and increase the length of their recreation time.

The public has a strong desire to learn about history and the natural environment. Including interpretation is one of those extra steps that adds the WOW factor and turns a good trail into a great trail.

Interpretation can also open the door for some creative partnership and funding opportunities.

Structures. Though structures are a design element, many structures are mitigations for issues brought up during the planning process. Bridges are a mitigation to help protect water quality. Barriers and fencing can be mitigations to help protect sensitive areas. Cattle guards help mitigate the range issue of gates being left open. Implementing structures like boardwalks and puncheons can allow access through or over sensitive areas while still protecting the resource. Trail hardening can be used to help protect subsurface resources. The use of those structures not only helps protect the resource, they can greatly enhance the quality of the riding experience. Structures help provide a win-win scenario.

Restrictions

Using restrictions is a form of adaptive management to protect both the resources and the riding experience. There are two forms of restrictions. Vehicle restrictions are restrictions regarding the actual machine. Equipment restrictions are restrictions on accessories or other equipment on the machines.

Vehicle Restrictions. Vehicles are most commonly restricted by their width or type. OHV trails which are open to vehicles 50 inches or less in width could allow OHMs, ATVs, and smaller ROVs on the trail. Trails can also be open to one or more designated machine types. Single-track trails are often restricted to OHMs only. And a combination of type and width restrictions can be used. Some 4WD-only designated trails have width restrictions to preclude modified rigs with excessive width.



High-quality interpretation of this old mine site is one of the things that makes the Paiute trail system so appealing. Note the attention to detail with the mining theme on the steel post matched with a brand on the wood post. WOW.



This narrow cattleguard is being used for both range management and entrance management.



This sign is posted next to the narrow cattleguard pictured above.

Vehicle widths are restricted to: a) maintain narrow clearing width to enhance the trail experience; b) increase rider safety by limiting the size of a vehicle that may be encountered; c) protect a trail prism that wasn't built wide enough or may not have the durability to safely accommodate wider and heavier vehicles; and d) increase rider experience by providing more difficulty levels in the trail system. Many existing NEPA documents do not allow vehicles or a vehicle type which wasn't expressly analyzed in the document. Changing those documents could re-open the door to appeals and litigation.



This sign is a good example of an equipment restriction. In addition to having the information posted at the area, the information should also be available to people while they are planning their trip.

It is important to note that even though state or provincial laws may allow certain vehicles, trail managers usually have the option to be more restrictive when necessary and justified to protect resources or public safety. These messages are conveyed through the 4Es using effective entrance management structures and communicated to the riders before they get to the trail.

Equipment Restrictions. Restrictions which include items like requiring spark arresters, limiting sound emissions, requiring safety flags, and requiring fire tools on vehicles of a certain size like ROVs and 4WDs are examples of equipment restrictions. As with vehicle restrictions, land managers usually have the prerogative to be more restrictive than state or provincial laws allow when it is justifiable. The risk of fire is almost always raised as an issue, and sound can be an issue, so spark arresters and silencers are easy mitigations for these concerns. Safety flags are often required in dune areas to increase the visibility of approaching vehicles.

The trail tread is a valuable resource and the force of displacement acts on that resource. There is often discussion on whether the tire type should be restricted. Many people believe that more aggressive tires create greater displacement. However, as the U.S. Forest Service tire study has shown, the depth of the tread is not a factor in the amount of displacement on a trail. Knobby tires are designed to grip, not to tear or slip. They can be likened to golf shoe spikes which help keep feet from slipping across the surface and creating divots.

Tip, Trick or Trap?

Tip: Knobby tires can be like golf shoes, which provide traction without disturbing the ground.

Impacts from tires are caused more by the mentality of the rider than by the aggressiveness of the tire, so management effort is better spent on the 4Es to improve rider ethics and promote peer pressure than on enforcing a restriction. Tread Lightly!'s, "Use It but Don't Abuse It," and "Ride It, Don't Slide It" can be good education messages.

Relocation and New Construction

Relocation is a tool that can be used to avoid a sensitive resource or move a section of non-sustainable trail to a more suitable location and alignment. Too often, managers pour money into multiple bandages for a trail that cannot be fixed when it would be less expensive in the long term to relocate the trail. Relocation is a tool that can protect resources, enhance the rider experience, and increase rider safety.

Relocation, of course, involves new construction, which may require additional environmental review and documentation. Because of this, some managers do not consider relocation as an option. However, if the trail still goes from Point A to Point B and the effects of the relocation fall within the scope of effects analyzed in the environmental document, the relocation could still be meeting the intent

Tip, Trick or Trap?

Tip: Utilize as Many Tools as Possible.

Relocation is one of the most important, yet under-used tools to correct sustainability issues. Failure to use this tool can lead to over-use of another tool: closure.

of the original document and the process to implement the relocation could be relatively simple without opening the door to appeals and litigation. Adaptive management verbiage in the environmental document can facilitate the trail relocation process.

Reconstruction

Reconstruction can be used two ways: 1) to put a trail back into the condition it was in when it was first constructed (essentially performing backlog maintenance) and 2) to upgrade the original condition by re-grading; reshaping; and adding or improving structures, signing, facilities, and segments of trail.

What is the lifespan of a trail? It depends on multiple factors like soil type, use level, type of use, climate, number and type of structures, etc. All trails require maintenance, but at some point, the trail may degrade to the point where routine maintenance will be inadequate to maintain the functionality of the trail. At that point, reconstruction, or heavy maintenance, is required.



This trail is in obvious need of reconstruction. The tread watershed is too big and too much water is draining at this point.

Utilize Existing Infrastructure

There is usually a plethora of existing roads and trails but the goal should be not to maximize the use of existing infrastructure, but to examine what is available and creatively incorporate those sections that fit with the goals for the trail system. The key is variety in any form: scenic, tread surface, speed, tread width, destinations, vegetative, topographic, and interpretive opportunities, commercial access, etc. Providing an imaginative mix of experiences is what creates a quality trail or trail system. Trails are all about fun.

Structures. Utilizing or sharing existing structures is a great way to reduce project costs as well as reduce the number of structures on inventory. Sometimes, it requires creative solutions to use existing structures, but the benefits are worth the effort.

Natural Surface Roads. The use of roads can be seen as an expedient and low-cost way to provide trails. There can be many benefits, but there can also be many traps. Land managers have the option to use roads or not, and like existing structures, why not? The three main issues with roads are 1) the extent to which they are used, 2) the size of their tread watershed, and 3) the quality of the experiences they provide. If the road is being closed to mixed-use, consider using an existing road corridor and turning it into a trail rather than relying on the road as is.

It is important to remember that OHVs are not designed to be used on paved surfaces. When considering using roads as trails, only natural surface roads should be considered.



The opportunity to use this old railroad bridge as an OHV trail enhances the rider experience and saves project dollars. This could be a good place for some interpretation as well.



The outstanding visual quality of this site transforms the road experience from transportation to recreation. It's a road, but it's a WOW.

Use Natural Surface Roads as Trails. Roads are an existing infrastructure. Many state and provincial laws as well as agency regulations allow OHV use on roads, especially low standard or minimum maintenance roads. With roads, a key point to remember is that they can provide two types of experiences, transportation and recreation. The experience must match the riders' desired experience for the trail or it won't meet the riders' needs.

Convert Natural Surface Roads to Trails. Increasingly, roads are being closed to reduce road densities and reduce road maintenance costs. Often, this can present an opportunity to convert roads into trails. This is a good tool especially when options for creating new trails may be limited. There are many pitfalls of roads, including long sustained grades, infrequent drainage, and large watersheds; but when properly done, many roads can be converted into high-quality trails with high-quality experiences.

Convert Rails to Trails. Railroad grades can be too fast, too straight, and too boring, but this book is about WOW. What makes a great trail great?

Traveling over a 150-year-old wooden trestle and looking 500 feet down through the ties to the river below or entering a dark tunnel. That is WOW.



If there is an opportunity to incorporate that, seize it.



This road was closed and converted to a trail eight years ago. It was half-ripped and good entrance management was installed to restrict full-sized vehicles. Even in this dry environment, roads recover and revegetate very quickly once the use is off of them.

Trails. As in roads, there can be benefits and traps. Using existing trails can have the same issues as using roads: the extent to which they are used and the quality of the experiences they provide. Most existing trails were not designed, so primary concerns are their sustainability and whether they go where the planner needs them to go. Many user-created trails go up the hill whereas sustainable trails go across the hill, and the biggest trap that a manager can fall into is to assume that user-created trails meet the users' needs. Most do not.

Entrance Management

Entrance management is a tool that managers often overlook. Implementing effective entrance management:

- Provides rider education by indicating trail number, difficulty level, and allowed vehicles.
- Sets rider expectations through well-engineered barriers and filters.
- Reduces conflict by setting rider expectations.
- Sets the stage for enforcement by posting travel management signing and any pertinent restriction or closure signing.
- Increases rider safety by immediately indicating the skill level needed to negotiate the trail.
- Reduces impacts created by unskilled riders.
- Potentially reduces the number of riders on a trail, which can keep a marginal trail on the sustainable side of the fulcrum.



This user-created trail runs up the fall line, is non-sustainable, and is visually distasteful. Even if it could be made sustainable, it does not harmonize with the landscape and violates many principles of trail location by bisecting the meadow.

- Reduces or eliminates trail widening caused by over-width vehicle use.
- Increases the rider experience by maintaining the designed tread width, reducing the number of riders, and protecting challenge features.



These bollards and gate serve as width restrictons to keep larger vehicles from accessing the trail.

Tip, Trick or Trap?

Tip: Entrance management = Risk management

Every one of these items is an element of a great trail and of great trail management. Effective entrance management epitomizes the application of the 4Es; it helps ensure a quality recreation experience and reduces the managers' risk.

Administrative Tools

Below is a list of the management tools that can help build a successful program.

Partnerships. Having broad-based support for the project or program is imperative. Just like the Great Trail Continuum, the battle to have and keep OHV trails is never over. The stronger and broader the support base, the better it will survive attacks from critics over time. Time invested in strengthening and expanding partnerships is time well spent.

Donations. Having a broad base of partners can open the door for a wide variety of donated materials and supplies. Being in the position of asking for anything can be an awkward task, but vendors usually will not offer support without being asked. Managers who ask are usually surprised with the results. These donations not only help the program on the ground, but they serve as important sources for match contributions for grants.

Innovative Grants. Having partners helps secure grants, but having creative partnerships almost ensures grant success. Almost all resources benefit from having a well-managed, designated OHV trail system, so seek partners and grants from unlikely sources like the Nature Conservancy, Ducks Unlimited, the Rocky Mountain Elk Foundation, and Backcountry Horsemen, etc.

Volunteer Program. Having a lot of volunteer labor is another key to securing grants, especially if the labor comes from multiple volunteer sources. The organizing, training, and scheduling of volunteers takes a lot of time and energy, but again it is time well spent. Volunteers aren't free, but for building partners, grants, and a workforce, they are essential to any successful OHV program. Volunteer trail ambassadors can increase education, evaluation, peer pressure, and agency visibility. When it comes to maintenance, whatever work can be done by volunteers, should be done by volunteers. This will build support and ownership in the program. Volunteers are a key component in successfully implementing the 4Es. Like donations, volunteers usually don't step forward on their own, they need to be asked.



A local 4WD club conducts a trash clean-up day on public lands

External Relations and Politics. This would include anyone outside of the agency: dealers, local and regional clubs and associations, state or provincial OHV program and grant managers, community leaders, and stakeholders. Conducting a group or one-on-one field trip to the project presents a good forum to build and strengthen these relationships. Time spent here could lead to additional partners, grants, and volunteerism.

Internal Relations and Politics. Dealing with internal politics can be far more challenging than external politics because of the day-to-day contact and interaction with co-workers. However, that effort is more than worth it when it comes down to gaining time commitments from essential personnel like resource specialists, obtaining labor from fire or smokejumper crews, or securing the fair share of a tight budget.



Kids listen intently to the instructor during a Family Fun Day Event.

Permitted Activities. Permitted activities could include speed and non-speed events, jamborees or rallies, charity fundraisers, and special training or education events. There are many benefits to having permitted activities: clubs and the public enjoy them, so having them increases the external political connections and relations; clubs often rely on events as primary fundraisers; activities can stimulate interest, support, and volunteerism; they bring public and media exposure to the trail system that can help market the system and increase awareness of successful OHV management; they can provide an economic benefit to the community; and they can strengthen external relations and political connections.

Legislative Changes. Sometimes current laws are outdated or too restrictive to allow managers the flexibility they need to effectively manage the use. The only way to fix that is to work within the system to try to implement changes. Field trips with legislators, stakeholder group advocates, or state or provincial agency personnel can help show them the rationale for needed changes. Working with clubs and associations on these efforts can be well worth the time.

Integrated Resource Management (IRM). IRM involves the coordination and cooperation between an OHV program and the activities of other resource entities within the agency: fire, other recreation, silviculture, range, law enforcement, engineering, wildlife, botany, cultural resources, etc. It takes effort to develop those internal relations and to get involved in the planning and execution of all of these other resource activities. But the trail is also a resource and the OHV program has or should have parity with any other program. Because trails are easy to traverse, they often get used as boundary lines for other activities, but those lines can affect the integrity of the trail and the quality of the trail experience. While a buffer strip usually isn't required, what is desirable is a mosaic that creates variety.

Here are some scenarios that could be avoided or minimized with IRM:

- The use of trails as skid trails or temporary roads.
- Having trails used as fire lines.

Tip, Trick or Trap?

Tip: Master the 3P's of Success:
Politics
Politics
Politics



Due to good IRM, this trail is open and signed to protect public safety.

- Having trails used as timber unit or cut block boundaries.
- Having fencelines installed that cross the trail on steep grades or curves.
- Having sight lines and corridors opened up through vegetation management that can invite off-trail hillclimb use.
- Improper closure of temporary roads and skid trails that invite off-trail use.



A fenceline needed to be installed to keep livestock out of a stream to protect water quality, but there were limited places to cross this trail. This site was chosen after coordinating with range and the range permittee. Water, range, and recreation all benefitted by this cooperative effort.

And some benefits:

- Having advance notice of fire or timber harvest activities so trails can be signed and the public informed.
- Having pits and quarries shaped for use as play areas.
- Having a landing or other impacted site specifically located for future use as a trailhead or other site for OHV activity.
- Being able to relocate an undesirable trail or trail segment as a mitigation to avoid adverse impacts from the other activity.

Know the Customer. The demographics of the customer will change over time and managers can't provide for the riders' needs if they don't know who the riders are or where they are

coming from. A short online survey or a registration box at the trailhead can give managers valuable information that can be used to better serve the customers and provide supportive data for grant requests and other reporting.

Tip, Trick or Trap?

Tip: Change is inevitable

As the demographics of your customers change, the configuration of your trails and facilities may need to change.



Volunteers are the heart of a successful OHV program.

Implement All of the 4Es

The 4Es: Engineering, Education, Enforcement, and Evaluation, have been mentioned several times in this chapter and throughout this book. Use them. Enough said.

Tip, Trick or Trap?

Tip: Utilize the 4E's:

- Engineering
- Education
- Enforcement
- Evaluation



For those with vertigo or fear of heights, this old railroad trestle may cause some trepidation. For the rest of us, this WOW experience is a great example of using existing infrastructure.

A Closer Look...

The fourth E of the 4Es, Evaluation, isn't just determining the success of a barrier or the effectiveness of erosion control measures. It includes zooming out and looking at the bigger picture: how is the program doing? In talking about building relationships with partners, stakeholders, and grantors, these people want value, efficiency, customer satisfaction, and resource protection. What do they see? Managers should put on their objective hat, go out to the project area on a weekend day, and look at their own program. Does it look professionally and successfully managed? Are the map boxes full, toilets clean, litter picked up, signs and posters neat and legible, smiles on the riders' faces, and tracks only where there should be tracks? No? Then the tasks of creating a successful OHV program and building internal and external relationships could be more difficult. Taking the time to zoom into the "on-the-ground" picture can help managers zoom out and better administer the big picture.

A Great Trail Requires Creating a Great OHV Program

Need more? Learn more here...

ATV Effects Study and Existing Trail Conditions, U.S. Forest Service San Dimas Technology Development Center and the Rocky Mountain Research Station in Moscow, ID, http://www.fs.fed.us/t-d/atv_trails_site/pdf/ATVEffectsStudy.pdf

A Look Back...

Here are some of the elements discussed in this chapter:

- A trail is imposed on a dynamic environment; therefore, the trail and its management must be dynamic, not static
- Like the Great Trail Continuum, management has its own sub-continuum that never stops: implement, evaluate, make changes, re-evaluate. This is called adaptive management.
- Having adaptive management verbiage in the initial environmental document can facilitate making necessary trail changes later
- Every trail requires maintenance, but at some point many will still degrade and require eventual reconstruction
- With any closure or restriction, as the strength of the justification or rationale increases, compliance increases
- Roads can provide two experiences: transportation and recreation. If the road is being used as a trail, the road experience must be equal to the desired trail experience.
- Relocation is one of the most important tools available to correct sustainability issues, yet it is the tool that is the most under-used
- Entrance management is an essential component of risk management
- Managers should not be afraid to step back and take an objective look at their program. Managers need to see what their customers are seeing.
- Few people have everything they need or know everything they need to know. Don't be afraid to ask for help.
- Politics is interwoven into everything, so master the 3Ps: Politics, Politics, Politics.
- As the demographics of the customers change, the configuration of the trails and facilities may need to change
- Great trails require having a great OHV program