

OLYMPIC NATIONAL PARK
BACKCOUNTRY MANAGEMENT PLAN

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Appendix

1976 Work Schedule

1. Introduction

Why does Olympic National Park need a backcountry management plan? The need is to identify and articulate those diverse actions and programs provided for within the basic legislation for the National Park Service and in the management policies formulated by the Service and the Department of Interior to carry out these legislative requirements. Congress, in creating the Service in 1916, required preservation of the resource and provision for visitor use within the context of said preservation. Its mandate for the Service is "...to conserve the scenery and the natural and historic objects and the wildlife 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".

As required by the Wilderness Act, the Service has examined the wilderness potential of the Park and proposed that approximately 862,000 acres be designated by Congress as a unit of the National Wilderness Preservation System. When an Olympic Wilderness is enacted, those lands will be managed in accordance with the Wilderness Act of 1964 which says in part, "A wilderness...is...an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain". (See Wilderness Recommendation, Olympic National Park, Washington, April 1974.)

The land classification system contained in the 1975 Management Policies of the National Park Service places wilderness and wilderness study areas in a Natural Zone. Such areas are to be managed in accordance with wilderness management policies, also described in the same document.

Use of the backcountry is also prescribed in the Congressional Act creating the Park and in the Master Plan for the Park. The Master Plan states, "Since there is not now--nor can there be--any developments such as pavement and utility systems to absorb the brunt of visitor impact, careful planning is essential now, because backcountry is--and must remain--the prime resource of the park."

The job of the Park is to respond to the combination of legal requirements, resource requirements, and visitor requirements with suitable management action, and this must be done now. At Olympic, it is not too late to prevent irreversible damage to the wilderness resource; existing scars can be healed, and problems caused by overcrowding have not yet become overly severe. However, backcountry use increases every year and the Park must prepare now to meet increasing demands on resources. The complexity of this

problem requires careful planning to define sound backcountry management objectives, to consider viable alternatives for action, and to devise an appropriate management strategy.

2. Description of Resources and Use

a. Physical and Biological Conditions

The Olympic backcountry, encompassing approximately 95% of the Park, consists of glacier covered mountains, alpine and subalpine lakes and meadows, heavy forests, river valleys and seacoast. The mountains are steep and jagged with rivers radiating out from the central core to flow to the Pacific, the Strait of Juan de Fuca and the Hood Canal. Weather is generally wet, with the wettest weather (140 inches of annual precipitation) on the west. Heavy snow covers higher elevations in winter and feeds the numerous glaciers.

The ocean strip is a 32,000 acre detached portion of the Park. Approximately 18,000 acres north of the Hoh River is backcountry, while the approximately 13,000 acres in the vicinity of Kalaloch is administered primarily for recreational purposes. Park land, which is heavily forested, extends only to the mean high tide line. The State of Washington owns the intertidal zone which ranges from sandy beaches to rocky tidepools interrupted by headlands. Offshore are rocky sea stacks and islands administered by the U. S. Fish and Wildlife Service.

(1) Vegetative zones represented in the Park are:

- (a) Lowland Zone: coastal and valley forests up to 1500 feet in elevation. Sitka spruce is the diagnostic tree species on the west; elsewhere, vine maple indicates upper limits of the zone.
- (b) Montane Zone: generally above 1500 feet and associated with steep slopes. Pacific silver fir is the diagnostic species, although western hemlock and Douglas-fir occur here and also lower. Two-thirds of total Park acreage is in this zone.
- (c) Subalpine Zone: a mosaic of discontinuous forest clumps and meadows. Neither trees nor tundra quite dominate. Diagnostic species are mountain hemlock and subalpine fir.
- (d) Alpine Zone: barren, treeless tundra vegetation in highest elevations and dry northeastern ridges above 6,000 feet.

- (2) Fauna: Of the 54 species of mammals in the Park, the major one, and the one for which the Park was largely established, is the Roosevelt elk, of which there are 3,000 to 5,000 within the Park. Other common mammals are the black-tailed deer, black bear, marmot and mountain goat, which was introduced to the Olympic Peninsula in the 1920's. Less commonly seen mammals are the mountain lion, bobcat, coyote, beaver, marten, otter, mink, raccoon and skunk.

There are 260 bird species in the Park and adjoining coastline. Five species of salmon and several trout species inhabit Park waters.

- (3) Man-made features: The human imprint on the backcountry consists primarily of the 600 miles of trail and trail bridges. Other structures include 61 shelters; 6 ranger stations; a "chalet" used as a ranger station with public sleeping use in the large, open bottom floor; some old homestead and trapper cabins; and numerous privies. A glacier research station on the Snow Dome of Blue Glacier is operated by the University of Washington.

b. Visitor Use

- (1) Amount, location and season: In 1963 there were about 41,000 nights of use in the backcountry; the figure for 1975 is more than triple that, about 130,000 visitor nights. Almost all those visitors are backpackers; probably less than 2% use pack or saddle stock. Almost one third of the use occurs in the coastal wilderness strip. Use is primarily during the months of July and August, but "off-season" use, especially on the coast and in the west side river valleys, is significant and increasing. Snowshoe and ski trips are also gaining in number.
- (2) The visitor: Visitors to the backcountry vary widely in experience, skill, desires, and demands. They range from those seeking the freedom and solitude of wilderness to those for whom social contacts with other groups is an integral part of their enjoyment; from those skilled in cross-country travel in the mountains to those on their first trip in a roadless area; from those dedicated to the ideals of minimum impact travel and camping to those accustomed to more consumptive use of the wilderness. Some styles of use can lead to conflict: the horseman vs. the hiker, the recreationist vs. the researcher; the solo hiker vs. the boy scout troop.

c. Impacts

- (1) Impacts on vegetation: The vegetation in some campsites is severely trampled, frequently until the ground is bare. Where ground has been bared and erosion is occurring, tree roots are often exposed. Some trees have died as a result. In areas with sparse supplies of firewood, trees have been stripped and girdled. Along trails, especially through meadows where trails are worn deep and where snow melt patterns force people off trails, parallel or braided trails develop.
- (2) Impacts on wildlife: Little is known of the exact effect that humans are having on wildlife, but it is fairly certain that increasing numbers of backcountry visitors are having an increased impact on the entire fabric of life in the wilderness. Some effects are obvious: elk are seen less frequently as they seek to avoid human contact and some bears seek out human contact for their diet of backpack foods. Other effects are subtle, but equally disruptive. The intent of backcountry management is to minimize the impact of human interference on intrinsic wildlife characteristics.
- (3) Other impacts: Soils have been compacted, have been sterilized where campfires have burned deep, and have been eroded by trampling and water. Water quality is suspect in some lakes due to human or animal fecal contamination. Littering in campsites and along trails is a chronic problem. Erosion of trails and campsites is locally severe.

3. Objectives of Plan

- a. Provide for the optimum level and highest quality of backcountry use consistent with legislation, policy, and social demands.
- b. Maintain the integrity of natural ecological processes.
- c. Confine human impact on the backcountry resource to acceptable levels. Such impact is usually measured in terms of trampling of vegetation and social interactions, but impacts on animal populations, on water and air quality, on soils, and on esthetic values must be considered as well.
- d. Integrate and coordinate management functions in the backcountry. Maintenance, interpretation and protection all have

responsibilities there and an effort must be made to gain maximum production from a coordinated park commitment.

- e. Coordinate the Park's backcountry management with that of other Service areas as well as other adjacent resource agencies. Insofar as possible, uniformity in regulations, permit systems, etc., is desirable to avoid confusion for the public.

4. Alternatives Considered

- a. Let wilderness manage itself; no management is the best management. This traditional management alternative, on the surface, would seem highly desirable. True wilderness has gotten along well for thousands of years without management by man. With no visitors to the backcountry, the alternative would still work. But in order for increasing numbers of visitors to safely use and enjoy the wilderness, and with the necessity for the Park to comply with statutes, some alterations (trails, bridges, campsites, ranger stations) become necessary. Man is an alien element in the wilderness and positive management actions are required to keep the consequences of man's presence minimal.
- b. Develop new facilities as visitor use increases. To a point this alternative could work. When use is low and wilderness acreage high, building new trails to spread use or providing a shelter to encourage camping in a certain area can work without untoward impact. But sometimes a point is reached where a non-wilderness is created. This must be avoided or in some cases corrected at Olympic.
- c. Adopt a system utilizing direct controls on the volume of use by means of reservations, assigned sites, limits on length of stay, etc. A system like this is in use at Mount Rainier National Park. It can do a very good job of achieving its objective of reducing impact through setting limits on use. For a smaller park with heavy visitation and with the funds and manpower to carry it out, it is a viable option. However, the funds and manpower needed to cover a park as large and diverse as Olympic would be enormous. Further, because visitation at Olympic is largely dispersed geographically and seasonally, a ceiling on total use is not yet necessary. At this time, it is felt that this alternative unnecessarily restricts the freedom of choice that most users seek.

- d. Adopt a system of area limits. Similar to Alternative c., the principal difference here is that instead of limiting use site by site, use is regulated by broad zones. Somewhat more freedom is allowed. To a limited degree, it is practical in the Olympics, where it has been used in the form of quotas at two trailheads. A comprehensive Parkwide system is not now needed nor financially practicable at Olympic.
- e. Adopt a system of direct and indirect controls on manner of use which in themselves will limit use somewhat and limit impact of use substantially. Such a system of controls, applied in conjunction with trailhead quotas in a few locations, with restoration of impact areas, and with a program of user education has been selected for Olympic. It allows considerable personal freedom, it can be accomplished to some extent with existing or anticipated resources, and it meets the objectives of management most fully.

A full description of this system occupies the remainder of this plan.

5. Visitor Use

Excessive impact on wilderness resources can be reduced through controls on amount of use, kinds of use, and locations of use and through education of the user. Absolute restrictions on the amount of use must be regarded as a means for reducing impact and not as an end in itself. This section describes elements of the backcountry plan directly affecting or affected by visitor activities.

a. Permit System (see Appendix A)

The use of a required permit has several functions. The permit can be useful in a search and rescue situation. It can be used as a control on the amount of use, where it occurs, when, how large the groups are, how long they stay, where they stay, and where they come from. But perhaps equally important, it provides the opportunity for one-to-one communication between a Park Service representative and the visitor.

- (1) **Format:** Two formats have been suggested for Servicewide use. The first is for use in large, heavily used parks. It is filled out by a park employee because destinations are coded. These codes are machine readable by an ocular scanner. The second format has written destinations and

is intended for parks with low visitation and where computer analysis is unnecessary. These permits may be used in self-issue situations such as unstaffed trailheads, but must first be coded in the park and then commercially key-punched if computer analysis is to be done. Due to the unique situation at Olympic, with significant off-season use and the large number of remote trailheads, both types of permits will be used when the formats become official. Until then the present format, similar to the self-issue one described above, will be used.

(2) Issuance

- (a) Staffed ranger stations and visitor centers issue the majority of the permits, using the coded permit when available. Permits for trailheads with quotas will be available by mail or telephone.
- (b) Where possible, these permits are also issued at Forest Service stations. Interagency information/orientation centers proposed by the park master plan for Hoodspoint, Discovery Bay, Port Angeles, and Neilton would be ideal locations for permit issuing.
- (c) At trailheads remote from any ranger station or visitor center, or when such stations are closed, provision would be made for self-issue of permits.

(3) Analysis

- (a) Permits are held for a limited period of time for emergency response review if needed, then forwarded for computer analysis. This analysis is presently done by contract with the University of Washington. Should a Servicewide analysis system become mandatory, the Washington Office would do the analysis.
- (b) After some averages and trends are established, money could be saved by analyzing data on a several-year cycle.
- (c) Computer analysis is valuable to management for correlation of impact studies with known use figures, for indicating future management needs, for testing the effectiveness of management strategies, etc.

b. Overnight Group Size

Limiting the number of persons camping in a single party is a method of reducing resource impact without applying individual area quotas. At Olympic the overnight group size limit of twelve was selected to ease the strain on the resource but also to avoid imposing undue logistic or financial hardships on group users. The number is consistent with the other national parks in Washington. Historically, 96% of the users are within this limitation.

The group size limitation does not apply to day use groups or to overnight groups making their camps outside the park, such as at Cape Alava.

c. Trailhead Quotas (see also Appendix B)

In certain areas of the park, a daily limit on the total number of persons entering the area at a trailhead is an effective way of reducing overuse, thereby reducing impact. No limitations on length of stay or locations of camping are currently imposed or suggested.

- (1) Criteria for quota areas: Trailhead quotas are applied only where there is a demonstrated need (limited camp space, severe resource impact, etc.), where a trailhead ranger station offers reasonably good control of trail access, and where there is frequent or constant on-site area supervision. This is now being done for Flapjack Lakes and Lake Constance.
- (2) Administration of quotas: Up to one half of the quota may be reserved, with the other half on a first come, first served basis. Reservations are taken by telephone or mail at the trailhead station. In the backcountry, regular checks for valid permits must be made by the on-site or roving ranger to assure compliance. Quotas are in effect only for the period June 15 to Labor Day.

d. Fire Restrictions (see also Appendix C)

It is becoming increasingly evident that the building of wood fires, especially at higher elevations, is a serious source of backcountry impact. In some areas where fires are permitted, the proliferation of fire rings causes accumulations of ash and partially burned garbage, living trees are stripped of branches as high as people can reach, every branch, twig, and

scrap of wood is gone from the ground, picturesque snags are hacked up, and unofficial trails radiate from campsites toward more distant firewood sources. The removal of all this wood, besides being esthetically unpleasant, is biologically harmful in that this plant material is a major organic constituent of the soil. At high elevations, this soil is by nature low in organic additives.

- (1) Restricted areas: Where resource damage due to fire building is heavy, use of wood fires is prohibited and use of backpack stoves is encouraged. Some areas, especially cross-country routes, may be closed to fires in order to prevent resource damage and preserve the pristine experience. In emergency situations where a warming fire is necessary for health or safety, the restriction may be relaxed.
- (2) Where wood fires are permitted, dead and down wood and existing fire rings must be used. On the coast, use of driftwood from the beach is permitted. And to save wood, gas stoves for cooking are encouraged even where a fire is built for warmth.

e. Sanitation (see Appendix D)

- (1) Human waste: Installation of facilities for the disposal of human waste should be at the minimum level necessary to provide for public health and safety; the progression is as follows: cat-hole (no facility), pit toilet, fly-out vault, chemical or mechanical toilet. However, before any new or new type of facility is installed, the alternative of reducing human use rather than installing a more elaborate structure should be considered.
- (2) Garbage: The Pack-It-Out program ("If you can pack it in, you can pack it back out") will continue to be emphasized in all minimum impact education programs. Where fires are permitted, burnable garbage should be burned. Some plastics, however (e.g. polyvinyl chloride), produce fumes dangerous to plants and possibly humans when burned. Plastics should also be packed out.

f. Stock Use (see V,D: Trail classification and Appendix E)

The use of saddle and pack stock is recognized as a valid use of many park trails. Some restrictions on their use are required, however, to mitigate stock-caused impact.

- (1) Stock group size limit: As a means for reducing the impact of stock on meadows and other sites, eight head of stock is the maximum allowance in any one party. This is consistent with other national parks in Washington.
- (2) Overnight holding: Where horses are held in meadow areas it is important to allow considerable freedom for them to roam. This avoids concentrating their trampling in one area. The best methods for allowing this freedom are the use of hobbles and drift fences where available. Picketing and staking cause considerable plant and soil damage. In forested areas horses tied directly to trees damage tree roots and branches. Accordingly, hitch racks or rope hitch rails (picket lines) should be used.
- (3) Closures: Due to fragility of some ecosystems, limited areas may be closed to stock use. Other areas may be closed seasonally to allow meadows and trails to dry out before stock use.
- (4) Grazing and feed: Pellets or grain must be carried and used on all trips. Supplemental grazing to supply bulk to the diet is permitted in most areas. Further studies should be made to determine what efforts should be made to protect against the establishment of exotic species.
- (5) Campsites: Loading and unloading of stock within 100 feet of campsites is not permitted. Overnight tying of stock should be as far from campsites as possible, but at least 100 feet.
- (6) Permittee, government and contract packers may be required to follow additional stock use regulations as specified.

g. Camping

- (1) Closures: Individual campsites may be closed temporarily or permanently to allow site restoration, to rotate sites seasonally, or to allow conversion to day use.
- (2) Consistent with Forest Service and Park Service policy, camping must be at least 100 feet from lake shores where terrain permits. This not only protects the fragile shoreline and helps prevent water pollution, but also allows free access to the lake shore by all visitors to the lake, not just the few who arrive in time to get choice lakeshore spots.

h. Interpretation

A major function of all uniformed personnel is visitor interpretation

- (1) Primary message: Backcountry interpretation and front country programs about the backcountry emphasize a wilderness code of ethics and minimum impact backcountry camping and travel techniques.
- (2) Secondary message: Such topics as natural history, geology, human history and park policy are usually of interest to backcountry visitors and can add support to the primary theme.
- (3) Methods: Training of backcountry personnel in interpretive techniques is a major part of their preparation, and follow-up interpretive supervision by a roving backcountry interpreter is necessary. Front country demonstrations of minimum impact techniques, survival, etc., are effective programs. It is hoped that a half-time seasonal interpreter can be hired to conduct walks and talks on the wilderness beach.

Efforts to reach visitors with the philosophy of wilderness minimum impact before they visit the backcountry are as important as reaching them in the backcountry.

i. Personnel (see also Appendix F)

- (1) Staffed stations: A system of fixed backcountry ranger stations is shown in the Master Plan. These stations are staffed with two persons whenever possible to provide simultaneous station and trail coverage, to allow on the job training for new backcountry personnel, and to afford increased personnel safety.
- (2) Roving patrols: As personnel are added to the backcountry, assigning roving overnight patrols rather than additional fixed stations will allow more complete coverage of trails and cross-country routes. It also makes construction and maintenance of additional structures in the wilderness unnecessary.
- (3) The basic structure of the backcountry operation must be regular Service employees because of their better knowledge of Service policy, their ability to enforce laws, and because they more perfectly represent the Service to the public. Use of VIP's (Volunteers in Parks)

and SCA's (Student Conservation Assistants) can provide the second person at a two-person station or provide coverage that would otherwise be lacking.

- (4) Qualifications: Backcountry personnel must know Service policy, rules, and regulations and the rationale thereof; they must also be proficient in safe, low impact mountain travel (trail and cross-country), first aid, and human relations. Some skill in fire suppression and search and rescue can be important. Acquaintance with local geography and natural history and the ability to communicate it effectively can be enhanced on the job. All duties, which include maintenance, interpretation, and protection, may have to be performed without close supervision.
- (5) All backcountry personnel, including those assigned to bridge and trail maintenance are called upon by the visitor and the Park to perform many of the functions of the backcountry ranger, especially in interpretive and emergency situations. Those employees must strive for a level of competence in those fields as well as in their maintenance specialties.
- (6) Training: Many skills can be learned only through work experience which, ideally, can be achieved by working a two-person station with a veteran backcountry employee. A pre-season backcountry training session is conducted annually for backcountry employees, VIP's and SCA's.

j. Information:

Keeping the public well informed of Olympic National Park regulations, backcountry conditions and minimum impact is vital to the success of this plan. This can be done with a continuing series of:

- (1) Press releases, television and radio spots.
- (2) Printed handouts for distribution with each permit and to groups, schools, etc.
- (3) Programs for schools, outing groups, outdoor shows, etc.
- (4) Trail Condition Reports (see Appendix G)

6. Developments and Administrative Use

Providing or not providing visitor facilities and services can have an effect on levels of use and levels of impact. In addition, administrative activities in the wilderness must be

scrutinized carefully to ensure they do not continue, aggravate, or create unacceptable impact.

a. Shelters (see Appendix H)

- (1) Departmental Guidelines implementing the Wilderness Act state that structures not necessary for the safety and health of visitors or for the protection of the resource are not permitted. Most of the 61 remaining trail shelters do not fill this requirement and they will be removed.
- (2) Those few shelters identified as necessary for safety and health will be maintained. It is also possible that a few shelters may be identified as necessary for the protection of the resource and retained. A few shelters outside or close to the boundaries of the proposed wilderness will be retained as historic structures.

b. Ranger Stations

The master plan shows ten backcountry ranger stations. Six of these are existing structures which will be retained. At the other four locations, consideration will be given to constructing moveable tent platforms, rather than permanent buildings. Concentration of impact could thus be reduced. Other backcountry personnel will continue to use mountain tents.

c. Trails (see Appendix I)

The relative difficulty of a trail can indirectly affect impact with no regulation or control of visitors. For this reason park trails are classified by maintenance standards as defined by contract stipulations. Classification and contract language are reviewed annually to ensure that they reflect the optimal and desired use, not merely the currently prevailing use.

- (1) Eight-foot clearing standard: These trails are suitable for both horse and foot use and are maintained to withstand heavy traffic. Most popular cross-park routes are in this category.
- (2) Five-foot clearing standard: These trails are maintained primarily for foot traffic. Some may be usable for experienced horsemen, but such use is not generally recommended. These trails generally provide access to very popular or primitive areas. The beach access trails from Lake Ozette are a special type of foot trail in that they are wooden plank trails for most of their distances.

- (3) Way trails: Maintenance on these trails is minimal and should be done by park crews (rather than contractors) sensitive to park goals. In many cases way trails are little more than a marked route with little attention to a trail tread.
- (4) Maintenance: Most trail clearing and tread maintenance is performed by contract crews. Volunteer groups and youth groups can perform valuable trail work if properly supervised and supported by the Park.

d. Bridges

The Management Policies state that bridges are to be built only to alleviate safety hazards. Criteria for the construction of bridges, including design, placement, etc., are found in the Environmental Assessment for Backcountry Bridges, Olympic National Park, January 1975. With rare exceptions, materials for backcountry bridges are to be obtained outside the park to avoid consumptive use of wilderness resources.

e. Signs

Backcountry signs are placed only for the purposes of visitor safety, backcountry management, and resource protection. Informational or interpretive signs are not proper in a wilderness. Signs will be limited in number and will be routed wood with charred letters and no paint.

f. Privies

Maintenance and servicing of privies and vaults must be on a set schedule. Pit toilets must be at least 100 feet from water. Holes should be dug at least 4 feet deep and in accordance to Occupational Safety and Health Administration standards. Fly-out vault privies are a good option where use is heavy, where soils are fragile or where digging is difficult. Helicopter servicing is required, creating another sort of impact, noise pollution.

g. Administrative Use

- (1) Responsibilities: The management of the backcountry is a total park effort. Functional differences in job titles tend to be less distinct in the backcountry, and any backcountry employee must perform all aspects of backcountry work: protection, maintenance, and interpretation. Accordingly, a coordinated approach to backcountry management is carried out at the staff level, with no individual responsibilities assigned.

- (2) Logistics: Helicopters continue to be the principal means of transporting supplies. Scheduling most flights for spring and fall and limiting mid-summer flights can reduce noise impact for the majority of visitors. Helicopters are for emergencies and for transport of supplies; they are not to be used for transporting administrative or backcountry employees. Volunteer sherpas are an effective means of supply, especially on short hauls where they do not need to carry overnight gear. Detrimental impacts are very low. Horsepacking will continue to be used for some backcountry supply where heavy hauling is necessary and helicopter intrusion is unwarranted.
- (3) Communications: Critical to smooth and coordinated management of the backcountry is an adequate radio system. Safety, trailhead quotas, law enforcement, search and rescue, fire suppression, logistics, and conditions reporting all depend enormously on the radio system.
- (4) Minimum tool: Service policy directs that "the minimum tool necessary to successfully, safely and economically accomplish its management objectives" will be used in the wilderness. It further states that economic factors should be considered the least important of the three criteria and that the chosen tool should be the one that least degrades wilderness values. At Olympic, continued widespread use of such motorized tools as chainsaws, cement mixers and helicopters will have to be subject to continual critical review.
- (5) Youth Groups: A plentiful supply of willing and inexpensive labor for backcountry projects is available to the park through such groups as the Youth Conservation Corps, Student Conservation Association and the Boy Scouts. Park support in the form of work programs, supplies, materials, logistics, and expertise is a reasonable price to pay for their services. Youth programs will continue to be emphasized at Olympic.
- (6) Crew Camps: Trail crews, bridge crews, youth groups, and any other crew working for the park, whether paid or unpaid, must follow the same rules and regulations as visitors. In particular, crews are limited to 12 persons and 8 head of stock. Crew camps should be set up in established camps where possible. Regardless of fire

use requirements, cooking must be done on gas stoves. Fires, where permitted, should be kept to the minimum and standing trees may not be used for firewood. For extended periods, consideration should be given to the temporary installation of a pit toilet or vault.

- (7) **Emergencies:** Emergencies, such as a large search or rescue, are supervised by park personnel, but volunteers perform much of the labor. During these operations, military aircraft, commercial aircraft, pack stock, search dogs, and large groups of volunteers may be used. Any regulations to the contrary are temporarily suspended. This is not to say that minimum impact techniques should not be used during emergencies, however.
- (8) **Law enforcement:** Several of the backcountry rules prohibit activities which visitors have done legally for years. Because of this, enforcement of regulations should be sensitive to the individual circumstances, but consistent throughout the park. Until visitors can get used to new rules, a written warning is probably more effective than a citation, in most cases. The general rule is to use the lowest effective level of law enforcement.

h. Cooperation with Other Agencies and Parks

- (1) **National Parks:** Efforts have already been made to coordinate backcountry management among the parks in the State of Washington. The first efforts to coordinate Servicewide are just starting. Olympic supports all such efforts to achieve a reasonable degree of consistency with due consideration of the unique features of individual park resources and visitor use.
- (2) **U. S. Forest Service:** At present, Olympic National Forest does not have severe backcountry problems, but cooperation between agencies in permit issuing, training and coordinating policy has begun. A trail maintenance agreement between the two agencies involves 19 miles of trail. Coordination of trail maintenance standards on adjoining trails is needed. Both agencies and the public will benefit from continued cooperation.

Cooperative agreements with the Washington State Parks and Recreation Commission and the U. S. Fish and Wildlife Service have been entered into by Olympic National Park to promote cooperative management of the wilderness coastline.

7. Resources Management

a. Research

- (1) Park programs: A list and description of research to be undertaken at Olympic is contained in the Resource Management Plan. Many of the projects will take place in the backcountry. Some studies are in progress now, or are to begin soon, that directly affect backcountry management. A management study of human impact on the backcountry, when complete, will provide a comprehensive inventory of most backcountry campsites and the impact that is occurring. Studies of social and behavioral characteristics of backcountry visitors, a high lakes aquatic survey, and studies of management practices that can alleviate impact are under way or proposed.
- (2) Research natural areas: Established in cooperation with five other federal resource agencies, these areas are established to preserve outstanding and unique vegetative types. The four areas in Olympic National Park are:
 - (a) Hades Creek (Bogachiel drainage): low elevation Pacific silver fir and western hemlock.
 - (b) Higley Creek (Quinault drainage): western hemlock.
 - (c) Jackson Creek (Hoh drainage): Douglas fir.
 - (d) Twin Creek (Hoh drainage): Sitka spruce of "rain forest" type.
- (3) Man and the Biosphere Program: UNESCO has recognized Olympic as a "biosphere reserve", one unit in a worldwide network of protected areas. These reserves are for the conservation of species and genetic diversity and for use in a program of monitoring research and training on a variety of ecosystems.

b. Restoration (see also Appendix J)

Heavily impacted trails and sites need restorative attention to bring them back toward more nearly natural conditions. Some methods the Park can use will be to transplant, seed, scarify compacted soils, install jute netting, sign restoration zones, close sites, rotate sites seasonally, install water bars on social trails, flush-cut stumps, remove fire

rings, provide tent pads where necessary, and remove shelters. Concurrently with these actions, visitor use patterns must be changed to avoid repetition of the degradation.

c. Wildlife Management

Natural wildlife behavior and life processes must prevail. Where human interference prevents natural conditions or causes unnatural conditions, human use patterns must change. A few examples follow:

- (1) During the rutting or calving season, it may become necessary to temporarily close local areas in order to protect elk herds from disturbance during the critical times of year.
- (2) Some backcountry bears have become accustomed to foraging in backpacks rather than in natural sources of food. When this becomes habitual with a bear, the bear is trapped and removed or human activity changed. Only as a last resort is the bear destroyed. Encouraging visitors to hang up their packs, to deal with their garbage properly, and to keep a clean camp will help to reduce bear and human conflicts.
- (3) Mountain goats were introduced to the Olympic Peninsula in the 1920's and are now found in many parts of the Park. Some have become a nuisance to campers and have damaged fragile soils with their digging and trampling. In one area, the goats are apparently foraging on an endemic plant species, but it is not known what effect this is having. It is possible that the trampling and feeding on endemic plants will have to be reduced by trapping and transplant of goats.
- (4) High country lakes were originally barren of fish. The fish stocking program, which introduced fish to most of those lakes, has been temporarily halted, pending examination of the effects that the fish and fishing activity are having on the environment. Lake shores are one of the more fragile ecosystems and the perpetuation of artificial fish populations may be attracting too many visitors and causing impact. However, the fact that fishing is a traditional and fairly popular backcountry pursuit cannot be ignored. Present Service policy states, however, that "naturally barren waters will not be stocked with either native or exotic fish species".

- (5) Endangered species If nesting or denning areas for any endangered bird or mammal species are discovered, closure of the area may be appropriate.

d. Vegetation Management

- (1) Restoration management actions on visitor use may be required where rare endangered, endemic plant species are threatened by human activities.
- (2) Wild resource management It is anticipated that significant portions of the park will be zoned to areas where natural resources are allowed to burn. These zones will be natural resource areas pose a threat to human life, cultural resource facilities endangered species, or historical site boundaries. All man-caused fires and natural fires outside the zones will be suppressed.

8. Future Considerations

The present plan is based on the best available information that is derived from research, observation, visitor input, and critiques. It is based on existing resources and funds.

a. Change

The plan, following the concept of change, will require revision and updating. Changes may be indicated by results of monitoring or future research by changes in law or Service policies by different visitor attitudes, desires, or use patterns by changes in funding or staffing.

b. Management Alternatives

Possibilities for new management strategies may, for example, include any of the following: competitive limits on volume of use, development of new facilities, utilizing techniques of "site hardening" to allow increased dedicating certain areas to high density use, adjusting permit quotas and use restrictions, closing or shortening roads, charging a use fee, requiring proof of ability to use minimum impact techniques.

c. Review

Periodic reviews of backcountry management must be made by the Park and by the public. Such review should be at a five to ten year interval. An annual park evaluation of progress and an annual action schedule will also be made.

Appendix A

Permit System

1. Staffed issuing stations

Staircase	Hoh
*Dosewallips	Lake Ozette
*Deer Park	Mora
Port Angeles Visitor Center	Kalaloch
*Heart O'the Hills	*Queets
Elwha	*North Fork
*Storm King Visitor Center	*Graves Creek
*Soleduck	Quinault
*summer only	

2. Self-issue trailheads not covered by stations in summer

South Fork Skokomish	Aurora Ridge
Lena Lake	North Fork Soleduck
Duckabush	Rugged Ridge
Upper Dungeness	Bogachiel River
Royal Creek	South Fork Hoh
Gray Wolf River	Wynoochee
Slab Camp	Second Beach
Little River	Third Beach
Pyramid Peak	Oil City

Appendix B

Trailhead Quotas

The following areas are suffering high impact, are reached by comparatively short trails, and are receiving heavy use from fishermen, day hikers, local hikers and, apparently, novice backpackers. Lake Constance is used as a mountaineering base camp. Control of use is good from trailhead ranger stations.

<u>Area</u>	<u>Trailhead Station</u>	<u>Daily Quota</u>
Flapjack Lakes	Staircase	30
Lake Constance	Dosewallips	20

Possible Future Quota Areas

These areas are also reached by fairly short trails and receive heavy use. Multiple trailheads make strict controls difficult. Quotas to be applied only if indirect controls on impact are not sufficient.

Area

Seven Lakes Basin (Soleduck and Hoh trailheads)

Grand Valley (Obstruction Point trailhead)

Sand Point (Ozette trailhead)

Appendix C

Fire Restrictions

Existing closures: heavily used subalpine areas with good ranger coverage for enforcement.

1. Flapjack Lakes, from Donahue Creek crossing to and including Gladys Divide.
2. Lake Constance, from the lake outlet to and including Crystal Pass.
3. Honeymoon Meadows to and including Anderson Pass and Glacier.
4. Area from Deer Park trailhead to Obstruction Point and from Obstruction Point to Grand Pass, including all of Grand and Badger Valleys.
5. Area from the outlet of Deer Lake, from Bridge Creek on the Soleduck Trail, from the outlet of Hoh Lake and from the east end of High Divide to and including High Divide, Seven Lakes Basin, Heart Lake and Cat Basin.
6. From 200 feet below outlet of Marmot Lake to and including O'Neil Pass, Hart Lake and Lake Constance.
7. Area from the outlet of Lake Angeles and from Heather Park to and including Klahhane Ridge and Mount Angeles.
8. Glacier Meadows to Blue Glacier, inclusive.

Possible future closures: generally less heavily used subalpine areas with poor ranger coverage at present.

- *1. Upper Lena Lake, including Scout Lake.
- *2. Boulder Lake.
- *3. Royal Basin (Royal Lake and above).
4. Skyline Trail, Seattle Creek to Three Lakes, inclusive.
5. Martin's Park and Lakes.
6. Bailey Range, from High Divide to Queets Basin, inclusive.
7. Elk Lake.

Appendix C (continued)

8. Dose Meadows to Hayden Pass, inclusive.
9. Dose Meadows to and including headwaters of Cameron Creek and headwaters of Lost River.
10. From Divide above Home Sweet Home ("First Divide") to and including Home Sweet Home.
11. Lake Sundown.
12. Appleton Pass.

*Projected closures, 1976

Appendix D

Sanitation

1. Existing fly-out vaults:

Glacier Meadows
Seven Lakes Basin

2. Existing pit toilets:

(A map showing existing facilities, year installed, condition, and those to be removed will be completed in summer, 1976.)

3. Proposed fly-out vaults for future consideration:

Lake Constance
Deer Lake
Grand Lake
Royal Lake
Sand Point (2)

4. Proposed pit toilets:

Black and White Lakes
North Fork Skokomish
Krause Bottom
Chicago Camp
Mink Lake
Hyak
Sundown Lake
Flapjack Lakes

Appendix E

Stock Use

1. Existing overnight holding facilities

Hitchracks: Olympus Guard Station (Hoh River)
 Elkhorn Guard Station (Elwha River)
 Hayes Guard Station (Elwha River)

Drift fences: Stony Point (near Elkhorn Guard Station
 on Elwha River)
 Enchanted Valley (East Fork Quinault River)

2. Existing Trailhead facilities

Hitchracks: Dosewallips
 Whiskey Bend (Elwha River)
 Soleduck
 Hoh
 North Fork Quinault

Loading ramps: Soleduck
 Whiskey Bend (Elwha River)

3. Drift fences for future consideration

Gray Wolf at Cedar Creek
Low Divide
Olympus Guard Station

Appendix F

Personnel

1. Stations staffed with NPS employees in 1975

<u>Location</u>	<u>Facility</u>
Enchanted Valley	Cabin
Olympus Guard Station	Cabin
Glacier Meadows	Tent
Lunch Lake	Tent
Elkhorn	Cabin
Low Divide	Cabin
Honeymoon Meadows	Tent

2. Stations staffed with SCA, VIP or NPS (weekends) in 1975. Where specific regulatory controls are established, NPS employees are required.

<u>Location</u>	<u>Facility</u>
Lake Constance	Tent
Flapjack Lakes	Tent
Bogachiel	Cabin
Grand Valley	Tent
Royal Basin	Tent
Sand Point	Tent
Hayes	Cabin
Queets (Smith Place)	Cabin

3. Projected fixed stations as identified in the Master Plan:

Duckabush, Three Forks, Dose Meadows

4. Projected roving patrols to provide improved trail coverage:

Skokomish, Dosewallips, Duckabush
Grand, Cameron, Gray Wolf
Elwha
Pacific Coast
Bailey Range
Hoh and Bogachiel
Quinalt and Skyline

Appendix G
OLYMPIC NATIONAL PARK
BACKCOUNTRY CONDITIONS REPORT

***Submit immediately by mail, phone, or hand-carry to CRO. Make a separate submission for backcountry management and protection suggestions.

DATE _____ 19 _____ REPORTER _____ AREA _____

BACKCOUNTRY AREA OF REPORT (specify trails, landmarks, quad references, etc.) _____

SPECIFY ACTUAL TRAIL AND/OR ROUTE CONDITIONS (tread, slides, estimate of snow cover..elevation, depth, distance, steepness, character, hazards, etc..., stream crossings..fords, wash-outs, footlogs, bridges..., route-finding...snow-covered junctions, markers....., conditions for packstock use, bear problems, etc.

RECEIVED AT CRO, (by _____) Verbal _____ Written _____ Date _____ 19 _____
(initials)

Appendix H

Shelters

- A. The following shelters are not necessary for visitor health or safety and are not necessary to protect the resource. They will be removed over the next several years.

Flapjack Lakes	Three Forks
Hart Lake	Mary's Falls
Dose Meadow	Wilder
Lower Cameron	Chicago Camp
Remann's Cabin	Twelve Mile
Drum Cabin	Trapper
Canyon Camp	Bogachiel
Stony Point	Fifteen Mile
Francis Creek	Twenty-one Mile
Chilean Memorial	Spruce Bottom
Norwegian Memorial	Bob Creek
Sand Point #1	Sundown Lake
Sand Point #2	Cedar Creek
Lower Elk Lake	Toleak
Upper Elk Lake	Mosquito Creek
Lunch Lake	Mink Lake
Nine Stream	Glacier Meadows #1
Diamond Meadows	Happy Four
Ten Mile	Smith Place
Bear Camp	Calawah

- B. No decisions have been made about whether these shelters are necessary for safety. They will be retained until final decisions are made.

Pelton Creek	Upper Duckabush
Three Lakes	Upper Cameron
Scott Creek	Happy Hollow
North Fork Soleduck	Three Prune
Sourdough	Hyak

- C. Shelters will be retained, relocated or rebuilt at the following locations for safety, resource protection. One backcountry shelter is retained as an historic structure.

Hayes River	Home Sweet Home
Enchanted Valley	Anderson Pass
Olympus #1	Low Divide
Olympus #2	Grand Lake (relocate)
Soleduck Falls (historic)	Glacier Meadows (climbing hut)
Marmot Lake (relocate)	Elkhorn

Appendix I

Trails

1. Eight-foot clearing standard: high standard of maintenance suitable for general use by hiker and horseman; many are cross-park routes. Brush and down logs are cut back to an eight-foot width. Overhead limbs are cut to allow a ten-foot vertical clearance. Actual trail tread width is 24 inches.

North Fork Skokomish to Duckabush

O'Neil Pass

West Fork Dosewallips

Dosewallips River

Hayden Pass

Gray Wolf River and Pass

Three Forks

Little River

Old Hurricane Road

Elwha River

Appleton Pass

Aurora Ridge to Sourdough

Mink Lake: Soleduck to Bogachiel Divide

Soleduck River to High Divide

High Divide: Heart Lake to Bogachiel Peak

Bogachiel River to Mink Lake trail

Hoh River to Elk Lake

Hoh Lake

Queets

North Fork Quinault

East Fork Quinault

Appendix I (continued)

Trails

2. Five-foot clearing standard: maintained principally to hiker standard but passable to experienced horsemen; many are spurs, heavily used routes or very short trails. Brushing and clearing is five feet wide and eight feet high. Trail tread width is 24 inches.

Staircase Rapids	Happy Lake Ridge
Smith Lake	Boulder Lake
Flapjack Lakes	Aurora Divide
Six Ridge to Belview	Krause Bottom
Upper Lena Lake	Long Ridge
Duckabush River	Lillian River
La Crosse Pass	Chicago Camp to Elwha Basin
Constance Pass	Barnes Creek to Aurora Divide Junction
Lost Pass	Aurora Ridge: Sourdough east
Upper Dungeness	Lovers Lane
Royal Creek	Deer Lake: Soleduck to Bogachiel Peak
Cameron River to Cameron Pass	Deer Lake to Bogachiel Divide
Grand Pass	High Divide: Heart Lake to Cat Basin
Grand Valley	Hoh River: Elk Lake to Blue Glacier
Hurricane Ridge to Klahhane Ridge	Big Creek
Switchback to Klahhane Ridge	Skyline: Three Lakes to Elip Junction
Lake Angeles	Elip Creek
Heather Park	Graves Creek
Hurricane Hill to Elwha	Sand Point
Cascade Rock	South Sand Point
Griff Creek	Indian Village
West Elwha	Taylor Point
Lake Mills	Second Beach
	Third Beach

Appendix I (continued)

Trails

3. Way trails: minimal maintenance; intended mainly as marked ways to reach low use areas. Marking may be by metal flags, rock cairns or remains of old trails. Some clearing and tread repair may be done, but on a less frequent schedule than other standards.

Mt. Hopper	Ludden Peak
Wagonwheel Lake	Dodger Point
Mt. Lincoln	Barnes Creek from Aurora Divide to end
Black and White Lakes	Storm King
Six Ridge: Belview to Sundown	Pyramid Peak
Success Lake	Eagle Lakes
Scout	North Fork Soleduck
LaCrosse Lake	High Divide from Cat Basin to end
Lake Constance	Hoh-Bogachiel
South Fork Skokomish	Indian Pass
Wildcat Lake	Mt. Tom Creek
Anderson Glacier	Kloochman Rock
Cedar Lake	Martins Park and Lakes
Slab Camp	Skyline: Elip Trail to Low Divide
Deer Park to Obstruction	Tshletshy
PJ Lake	South Fork Hoh
Badger Valley	Wynoochee Pass
Cox Valley	Allens Bay
Lillian River	Coastal headland routes

Appendix J

Minimum Tool Use

The Park will use the minimum tool or equipment necessary to safely and economically accomplish the objective. The chosen tool should be the one that least degrades wilderness values temporarily or permanently. The major objection to most of the following tools is noise; mitigation of this impact is possible by scheduling use during the period of least visitor use. Exceptions to the following restrictions can be made only by the Superintendent.

<u>Tool</u>	<u>Use</u>	<u>Period of Restricted Use</u>
Helicopter	1. Search and rescue (bona fide)	1. none
	2. Fire control	2. none
	3. Wildlife management	3. none
	4. Patrol station supply	4. July 1-Sept. 15
	5. Construction: bridge, trail	5. July 1-Sept. 15
	6. Vault toilet servicing	6. July 1-Sept. 15
	7. Research (aerial photos, etc.)	7. July 1-Sept. 15
Chain saw	1. Trail clearing - NPS	1. July 1-Sept. 15
	2. Trail clearing - contractor	2. none
	3. Construction: bridges, puncheon	3. July 1-Sept. 15
	4. Firewood for crew camps, excluding contractors	4. use not authorized
	5. Firewood for patrol stations	5. July 1-Sept. 15
	6. Fire control	6. none
Pack stock	1. Backcountry station supply	1. Oct. 31-June 30*
	2. Construction	2. Oct. 31-June 30*
	3. Search and rescue	3. none
Rock drill, dynamite	1. Trail repair, reconstruction	1. July 1-Sept. 15
Cement mixer	1. Bridge construction, cabin repair	1. July 1-Sept. 15

* depends on weather

APPENDIX K

Restoration

<u>Location</u>	<u>Actions Started (date)</u>
Flapjack Lakes	<ol style="list-style-type: none">1. Stoves only, no open fires (1974)2. Relocate camping from isthmus. Alternative camping available at Upper Flapjack, Scout Lake, etc. (1975)3. Obliterate fire rings, flush-cut stumps (1975)4. Daily trailhead quota (1975)5. Establish patrol station tent (1976)6. Sign area: trails, privy, camping, etc. (1976)7. Scarify soil, install jute netting, reseed and transplant old sites and social trails (1976)8. Control overnight stock use (?)
Lake Constance	<ol style="list-style-type: none">1. Stoves only, no open fires (1974)2. Delineate a few sites on the east shore. Alternative camping on north shore (1975)3. Obliterate fire rings, flush-cut stumps (1975)4. Daily trailhead quota (1975)5. Establish patrol station tent (1975)6. Improve trail to north shore by installing signs and markers (1976)7. Install vault privy (1976)8. Scarify soil, install jute netting on old sites and trails, reseed and transplant (1976)
Grand Valley	<ol style="list-style-type: none">1. Stoves only, no open fires (1974)2. Obliterate fire rings, flush-cut stumps (1975)3. Establish patrol station tent near trail junction above Grand Lake (1976)4. Install vault privy (1976)5. Remove shelter. Construct new one (1977)6. Scarify soil, install jute netting on old sites, reseed and transplant (1977)7. Close entire area from Grand Lake to Grand Pass, including Moose and Gladys Lakes, to camping. Alternative camping available at outlet area of Grand Lake (?)8. Control overnight stock use (?)9. Daily trailhead quota (?)

<u>Location</u>	<u>Action Started (date)</u>
Deer Lake	<ol style="list-style-type: none"> 1. Stoves only, no open fires (1975) 2. Relocate camping from old shelter area to west shore and east inlet to lake (1975) 3. Obliterate fire rings, flush-cut stumps (1975) 4. Scarify soil, install jute netting on old sites, shelter sites and trails, reseed and transplant (1975) 5. Install fly-out vault privy, remove existing pit privy (1976) 6. Control overnight holding of stock (?) 7. Daily trailhead quota as part of Seven Lakes Basin quota at Soleduck and Hoh trailheads (?)
Royal Basin	<ol style="list-style-type: none"> 1. Relocate camping away from lake shore. Alternative camping available at Big Rock, Upper Basin and Lower Meadow (1975) 2. Obliterate fire rings at lake and in meadows (1975) 3. Establish patrol station tent (1975) 4. Stoves only, no open fires (1976) 5. Obliterate remaining fire rings (1976) 6. Install vault privy (1976) 7. Scarify soil, install jute netting, reseed and transplant old sites on lake shore and on abandoned trails (1977)
Glacier Meadows	<ol style="list-style-type: none"> 1. Establish patrol station tent (1974) 2. Stoves only, no open fires (1975) 3. Remove fire rings, flush-cut stumps (1975) 4. Remove 3-5 campsites in meadow. Prepare 3 sites on hillside. Provide for use of some sites on a rotating basis as snow melts (1976) 5. Install water bars and drainage on all area trails (1976) 6. Remove old shelter and replace with new one as per Master Plan (1977) 7. Control overnight holding of stock (?)
Hoh Lake	<ol style="list-style-type: none"> 1. Stoves only, no open fires (1975) 2. Relocate camping from lake shore to "C.B." Flat, 1/4 mile down trail. Other alternative camping available at Seven Lakes Basin and ridge east of outlet (1976) 3. Obliterate fire rings, flush-cut stumps (1976) 4. Scarify soil, install jute netting, reseed and transplant old sites and trails. Place water bars on social trails (1977) 5. Daily trailhead quota as part of Seven Lakes Basin quota at Hoh and Soleduck trailheads (?)

<u>Location</u>	<u>Actions Started (date)</u>
Heart Lake	<ol style="list-style-type: none"> 1. Stoves only, no open fires (1974) 2. Obliterate fire rings (1975) 3. Relocate camping away from immediate vicinity of lake shore and from restoration areas. Alternative camping available elsewhere in Heart Lake Basin, Upper Soleduck Park and Seven Lakes Basin (1977) 4. Scarify soil, install jute netting, reseed and transplant old campsites and braided trails (1977) 5. Control overnight stock use (?)
Lake Angeles	<ol style="list-style-type: none"> 1. Stoves only, no open fires (1975) 2. Obliterate fire rings, flush-cut stumps (1976) 3. Scarify soil, install jute netting, reseed and transplant old campsites (1978) 4. Limit overnight use (?) 5. Control overnight stock use (?)
Elk Lake	<ol style="list-style-type: none"> 1. Obliterate sites too close to lake on west shore. Alternative camping available on northeast shore and Martin Creek (1/3 mile down trail) (1977) 2. Remove lower shelter (1977) 3. Obliterate excess fire rings, flush-cut stumps (1977) 4. Replace privy (1977) 5. Scarify soil, install jute netting, reseed and transplant old campsites and social trails 6.. Stoves only, no open fires (?)
Anderson Pass	<ol style="list-style-type: none"> 1. Stoves only, no open fires (1974) 2. Obliterate fire rings (1975) 3. Relocate camping from pass itself to moraine area, Anderson shelter and Honeymoon Meadow (1977) 4. Delineate a single trail through pass. Mark with signs and markers, especially across late snowbanks (1977) 5. Obliterate campsites and social and braided trails. Scarify, soil, install jute netting, reseed and transplant (1978)

(?) If problems relating to existing levels of use can be resolved without indicated action, no actions will be taken. If intensity of problem increases with increasing use, the indicated action, or alternatives, will be given due consideration.