

**Comments on
National Park Service**
Benefits-Sharing Draft Environmental Impact Statement (Servicewide)

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I. Introduction and Summary

We respectfully submit the following comments concerning the National Park Service ***Benefits Sharing Draft Environmental Impact Statement***, [1] hereafter referred to as the DEIS. We request that our comments be included in the official public record, carefully considered, and incorporated into the planning process, any further drafts, and the Final EIS/Plan and Record of Decision.

These comments are submitted on behalf of the following organizations:

- **Edmonds Institute**, a public interest, non-profit, 501(c)(3) organization committed to the health and sustainability of ecosystems and their inhabitants and focused on understanding and sharing information about environmental, social, legal, and economic impacts of technology;
- **Alliance for Wild Rockies**, a non-profit organization whose mission is to secure the ecological integrity of the Wild Rockies Bioregion through citizen empowerment, and the application of conservation biology, sustainable economic models and environmental laws;
- **Wilderness Watch**, a non-profit 501(c)(3) organization and the only national organization entirely dedicated to assuring that our great national heritage of Wilderness remains for future generations to know and enjoy;
- **International Center for Technology Assessment**, a non-profit 501(c)(3) organization devoted to exploring the economic, ethical, social, environmental, and political impacts that can result from the applications of technology or technological systems;
- **WildWest Institute**, an organization formed through the merger of the Native Forest Network and Ecology Center and designed to protect and restore forests, wildlands, watersheds, and wildlife in the Northern Rockies Bioregion.

The contact details for the above-named organizations and the names and titles of the persons submitting these comments on behalf of those organizations appear at the end of these comments, before the endnotes.

We believe the DEIS, as presented, is seriously flawed. It does not satisfy the District Court's Order in *Edmonds Institute et al. v. Babbitt, et al.*, nor does it meet the requirements of the National Environmental Policy Act (NEPA). Further, we consider that the DEIS makes proposals in violation of The Wilderness Act and National Park Service (NPS) regulations and we note that the DEIS has narrowly cast what should be a full range of alternatives into a false choice between commercial bioprospecting with increased benefits to the Parks and society, and no commercial bioprospecting with no increased benefits.

We believe it appropriate for the NPS to withdraw the DEIS, correct its deficiencies, and then issue a revised document for public review and comment as a Supplemental Draft EIS.

We urge NPS to fully comply with NEPA by developing and fully analyzing a Science in the Public Interest Alternative. We examine that alternative in some detail below.

Among the alternatives presented by NPS, we find Alternative C the most reasonable. Only Alternative C removes commercial bioprospecting from the National Park Service palette of permissible activities in the parks. **We offer conditional support for Alternative C. We specifically oppose the other listed alternatives, particularly Alternatives B1, B2 and B3. We are opposed to ANY commercial bioprospecting in the U. S. National Park System.** While we strongly support scientific research in the parks, we believe there should be no research within the park system that is expressly commercial except that which is deemed, through a process of public deliberation, publication, and comment, as research clearly beneficial to the public interest.

Commercial bioprospecting in general undermines the basic mission, purpose and spirit of the National Parks. Were commercial bioprospecting to be disallowed, as NPS itself points out in the DEIS, the amount of research likely to be foregone is less than one half of one percent of all research in the National Park System. Further, commercial bioprospecting and the use of Cooperative Research and Development Agreements (CRADAs) in relation to such bioprospecting open up the possibility that aspects of such endeavors may be sealed from public view and oversight. Whatever the intention of NPS, it will always be the right of the other parties to CRADAs to request that particular proprietary information be kept secret. Once secret, the only means for the public to access such information would be through Freedom of Information Act (FOIA) requests and, under FOIA, "trade secrets and commercial or financial information obtained from a person [that is] privileged or confidential" may be exempted from public disclosure. Because the benefit sharing under consideration concerns public lands, lands that belong to the people of the United States, it is of paramount importance that deal-making about these places be completely and totally transparent. None of the B alternatives can effectively make the necessary guarantee of transparency. **We cannot support any NPS management plan that allows agreements that are not totally and completely transparent.** In this regard, please note that our above-stated support for Alternative C is conditioned on the premise that the NPS Director makes any proposed exemptions the subject of extensive public notice and comment.

Finally, we note that seven years after the court decision that gave rise to the DEIS in question, NPS only gave the public 90 days to comment on a very lengthy document. We recommend that in the future, the comment period be extended.

II. Historical Background

To understand why commercial bioprospecting may be considered inimical to the basic mission, purpose and spirit of the National Parks, and why commercial bioprospecting will be harmful to the regard in which members of the public holds the parks (and thereby detrimental to what may be termed the "existence value" of the parks), it is useful to review some of the history of the

parks.

A. 1872 Yellowstone Park Act

Yellowstone National Park was created by an act of Congress and signed into law by President Ulysses S. Grant on March 1, 1872. [2] The Act clearly spelled out a preservation mandate for Yellowstone National Park, stating: "*Be it enacted by the Senate and the House of Representatives of the United States of America in Congress assembled, That the tract of land in the Territories of Montana and Wyoming is hereby reserved and withdrawn from settlement, occupancy, or sale under the laws of the United States, and dedicated and set apart as a public park or pleasuring-ground for the benefit and enjoyment of the people.*"

Section 2 of the Act instructs the Secretary of Interior to develop regulations for the protection and management of the park, stating: "Such regulations shall provide for the *preservation, from injury or spoliation*, of all timber, mineral deposits, natural curiosities, or wonders within said park, and their retention in their natural condition." (emphasis added) It also states: "He shall provide against the wanton destruction of the fish and game found within said park, and *against their capture or destruction for the purposes of merchandise and profit.*" (emphasis added)

B. The Antiquities Act of 1906

The Antiquities Act pertains to national monuments and archeological sites, and the legal authority for the President of the United States to establish such monuments. [3] This Act allows for the collection of artifacts within National Monuments, but explicitly states, "That the examinations, excavations, and gatherings are undertaken for the benefit of reputable museums, universities, colleges, or other recognized scientific or educational institutions, with a view to increasing the knowledge of such objects, and that *the gatherings shall be made for permanent preservation in public museums.*" (emphasis added)

C. National Park Service Act of 1916

The National Park Service Act states that the Park Service "shall promote and regulate the use of the Federal areas known as national parks, monuments, and reservations hereinafter specified by such means and measures as to conform to the fundamental purpose of the said parks, monuments, and reservations, 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." [4]

In Section 3 of the Act it states that: "no natural curiosities, wonders, or objects of interest shall be leased, rented, or granted to anyone on such terms as to interfere with free access to them by

the public".

D. General Authorities Act of 1970

The General Authorities Act, which supplemented and clarified the provisions of National Park Service Act, [5] includes this statement: "The authorization of activities shall be construed and protection, management, and administration of these areas shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress."

E. National Parks Omnibus Management Act

The National Parks Omnibus Management Act of 1998, NPOMA, [6] established scientific research as a fundamental purpose of the parks and instructed the NPS to engage in cooperative research studies with other federal agencies and public institutions including universities. In § 5935(d) the Act states, "The Secretary may enter into negotiations with the research community and private industry for equitable, efficient benefits-sharing arrangements."

Pursuant to NPOMA, the NPS has implemented the Natural Resource Challenge, including the creation of Cooperative Ecosystems Studies Units (CESUs).

F. Bioprospecting & Litigation

In the mid-90's officials in Yellowstone National Park entered into a first of its kind CRADA with the Diversa Corporation of San Diego. [7] The CRADA allowed money to flow back to Yellowstone from commercial bioprospecting in the various ecosystems of Yellowstone. The CRADA allowed Diversa to remove biological samples including microbes, soils, fungi, trees, plants, rocks and other natural features.

The Edmonds Institute, joined by the International Center for Technology Assessment and Alliance for the Wild Rockies, sued the NPS in Federal District Court, challenging the CRADA. [8]

A decision and order was issued by District Judge Royce Lamberth, [9] dismissing several claims brought by the plaintiffs, but upholding the NEPA claim, thereby suspending the Diversa/Yellowstone CRADA until completion of a fully compliant NEPA analysis.

III. General Policy Arguments

Research for Purely Commercial Purposes is Inconsistent With the Original Purposes of the Park System and Individual Park Creation Acts

NPS activities are legal to the extent they are consistent not only with NPS rules and regulations, but also with the original organic act of each park or monument. As the DEIS states on page 20, "Each unit of the National Park System is governed by its own enabling legislation, which provides specific legal authorities and direction for each park. Parks must review their park's enabling legislation to determine if it contains explicit guidance that would prevail over servicewide policy."

As noted above, the specific language in the creation acts for Yellowstone and the National Park Service clearly prohibits the removal of park resources for profit. For example, the Yellowstone Park Act of 1872 instructs the Secretary of the Interior to develop regulations for Yellowstone that "shall provide against the wanton destruction of the fish and game found within said park, and *against their capture or destruction for the purposes of merchandise and profit.*" (emphasis added) As small as biological organisms, or portions of organisms, may sometimes be, whether they are microorganisms or macroorganisms, they are part of the Park's wildlife and biological diversity, and there can be no question that "capturing" their DNA - whether thermophile, grizzly bear, or elk DNA - within a test tube for the "purposes of profit" is a direct violation of the Yellowstone Park Act. The point is that in commercial bioprospecting, something essentially has been "captured for profit." For example, were a grizzly bear to be trapped and subsequently tranquilized against its will, it is easy to see that it would have been "captured" and the results of that capture could not be allowed to lead to profit. Presumably, the same standard applies to all the wildlife, whatever the size, in the Park.

Similarly, the Antiquities Act, pertaining chiefly to archaeological sites and ruins, nonetheless states that any "gatherings shall be made for permanent preservation in public museums." The Act contains no provision that would allow commercial gathering, i.e., commercial bioprospecting for private profit.

As the District Court noted, the Park Service could find no statutory authority for commercial bioprospecting and, struggling to find a shoe that might fit, began to creatively stretch the language and the imagination in order to allow it by claiming that Yellowstone and other national parks are "federal laboratories" under the meaning of the Federal Technology Transfer Act (FTTA) of 1986 . [10] While the Court ultimately accepted this interpretation, in the minds of the public, such an interpretation was at odds with basic logic and commonsense. [11] Moreover, the legislative history of the FTTA would indicate that Congress enacted the law for the named "national laboratories", such as Los Alamos National Laboratory, Oak Ridge National Laboratory, National Institutes of Health, etc. Nowhere does FTTA history suggest that the law

was enacted for the purpose of declaring the units of the National Park System as national laboratories under the definitions of the FTTA.

While NPS claims commercial bioprospecting is consistent with the original mission and purpose of the Parks, the District Court recognized that NPS has engaged in "a dramatic shift in park management policy." [12] In this regard, the Judge rejected the Park Service position that bioprospecting is no different than other research conducted in the parks, writing: "This ignores the reality that the commercial nature of an activity can and does affect its impact on the subject environment and particularly on people's aesthetic and recreational interests in the Park. Although parkgoers may be willing to forgive the trespass of their national parkland when the goals of that trespass are scientific and educational, commercial exploitation of that same parkland may reasonably be perceived as injurious. This commonsense notion has not even been challenged in other contexts." The judge went on to point out that, "There is an undeniable reality that commercial activity is qualitatively different than scientific and educational activity of a similar nature, due to the very different forces and motivations that drive them."

While the District Court dismissed several claims in the litigation, it expressed its concern over this "dramatic shift in park management policy," and did not predetermine an outcome. Nor did the Court grant the NPS *carte blanche* to proceed as it wished. Rather, the Court ordered the agency to conduct a fully compliant NEPA analysis in order to make a rational decision, based upon the facts established in the analysis and the administrative record, as to *what* it should do and *how* it should do it.

In advancing as its preferred alternative an alternative that allows commercial bioprospecting, the NPS has failed to include an alternative providing for research in the public interest and failed to recognize an important distinction between commercial research and research in the public interest, notably the difference in transparency and public access to the science that is done. For example, researchers pursuing advanced degrees, or those affiliated with public research facilities not only report in annual summaries to the NPS, but their research is generally intended to result in scientific papers submitted to peer-reviewed journals for publication or for (publicly available) M.S. or Ph.D. theses. The methods and results of such research are therefore widely available to the public and other researchers, allowing them all to benefit from advances in research methods and techniques, the free exchange of ideas and knowledge, and the broadened base of scientific literature. However, researchers employed by commercial bioprospecting companies do not as a rule submit their research for peer review and publication. To the contrary, the fruits of their research are most often intended to be "trade secrets", not to be shared with others unless permitted by the relevant companies. The information is not easily, if at all, available to the public and other researchers do not gain from advances in methods and free exchange of ideas as they do in research in the public interest. Indeed, under the NPS preferred alternative, commercial bioprospectors with CRADAs may keep sealed from public view any information they consider to be proprietary, potentially meaning any or all important elements of any CRADA. This

amounts to using the public commons (the parks) to generate private knowledge. All that the CRADA guarantees to the public is access to a commercially (derived) product and a portion of the profits from that product. There is no guarantee -- nor reasonable expectation -- of transparency and complete access to the knowledge that flowed from access to public resources in the first place.

Such potential limitation on science done in the Parks and on the knowledge gained from research in the Parks is not acceptable and amounts to an injury to the Parks' mission. Were such injury to be allowed to persist, it can be expected to result in a lessening of public harmony with the parks mission, a lessening of the public's enjoyment of the parks, and eventually, a lessening of the public's willingness to support the parks and to direct their representatives to support the park system.

IV. Specific Issues

A. The DEIS Does Not Satisfy NEPA Requirements or the Court's Order

The NPS, while presenting a lengthy rhetorical analysis, has not presented a sufficiently substantive analysis. The NPS has chosen to take a bureaucratic approach by concluding that the major affected environment of its benefit sharing policies will be itself and its own administration. This profoundly narrow view fails to reveal or analyze significant aspects of the potential impacts, particularly those that relate to natural resources, wildlife habitats, and aesthetic environments.

There are a host of issues which the DEIS has failed to analyze, or in many cases, even to mention. **It is our position that the DEIS does not fulfill or comply with the instructions contained in the District Court's Order. It fails to take the "hard look" which numerous courts have found the National Environmental Policy Act (NEPA) requires.**

NEPA requires federal agencies to prepare an environmental impact statement in connection with all "major federal actions significantly affecting the quality of the human environment." [13] The Council on Environmental Quality (CEQ), created by NEPA, has established extensive regulations describing the requirements of an EIS. [14] It is our position, described in detail below, that the DEIS has failed to comply with numerous sections of the NEPA regulations.

B. The Analysis is Biased in Favor of Commercial Bioprospecting

The tone of the DEIS is clear. NPS portrays commercial bioprospecting as the only means available to obtain information necessary for proper resource management. Pursuing this direction, the DEIS contains allegations apparently meant to steer people away from Alternative

C. Sometimes this involves making broad claims, without documentation or substantiation. For example, on page 58 the DEIS states: "Under Alternative C, researchers would be prohibited from conducting most research that could improve health, safety, and productivity." And on page 59, the DEIS states: "Alternative C fails to meet this criterion because research that could be expected to lead to discoveries in health care, nutrition, agriculture, environmental management, or industrial fields would be prohibited. Accordingly, Alternative C would not attain the widest range of beneficial uses of the environment." These blanket statements are nowhere substantiated. Indeed, the DEIS states elsewhere that approximately 99.5% of research in the parks would be unaffected by Alternative C. On page 150 it states: "At the Servicewide level, Alternative C is likely to result in only a slight change in the availability of new scientific knowledge about park resources." Further, on page 122 the DEIS states: "No significant difference in the number of research projects conducted in any context was detected between the pre-benefits-sharing and post-benefits-sharing time periods."

In pursuing a policy favorable to commercial bioprospecting, the NPS years ago offered the debatable contention that parks such as Yellowstone are "federal laboratories". Now, the NPS has turned around and stated that these laboratories have no scientists or research equipment, and therefore it is necessary to bring in commercial enterprises to provide the expertise for them.

In further evidence of its bias towards the private sector, NPS tells us in the DEIS statement on page 77: "In a specific example of the contribution that independent researchers make to the NPS, the majority of new species currently being added to park biodiversity rosters are microbes, but the NPS does not employ permanent, full-time microbiologists to conduct microbial research and funds little research on microbes." Not only does the NPS not explain why it does not hire its own microbiological researchers or fund microbial research, but by not pressing for its own researchers, the NPS undermines its own position as to how crucial the microbial research information really is. If such research constitutes a central and vital purpose of the Parks, and if the benefits to the public are so potentially large, why has NPS not hired a single full-time microbiological researcher to conduct research for the NPS? The Service seems to be indicating that it is sitting on top of a virtual gold mine of biological diversity in Yellowstone and other parks and yet the Service has not seen fit to hire (or borrow from another agency) a single permanent full-time microbiological researcher.

In this regard the NPS has abdicated its responsibilities and come up with the weak claim that it must allow commercial enterprises to commercially exploit park resources in the name of filling a void that the NPS itself has apparently created.

C. Specific NEPA Violations

1. Affected Environment & Lack of Impact Analysis

Once having made the decision to produce an EIS, constituting major federal action, the NPS committed itself to the more rigorous and comprehensive standard of analysis, particularly given that the ambit of the EIS is Service-wide, applying to 84.4 million acres.

The DEIS makes a major error in portraying the affected environment of the document as purely administrative and related to paper shuffling. On pages 106-107, under the subsection 4.2.5 titled Impairment, the DEIS makes these incredible statements: "Impairment analyses only apply to natural and cultural resource topics, and do not apply to topics involving visitor use, social resources, or park operations. Therefore, because this document does not carry forward natural or cultural resource topics, impairment will not be analyzed further in this DEIS."

These statements are erroneous as the research entailed is not a paper-oriented literature review. The subjects of the commercial bioprospecting program are biological in nature and involve living park resources, with bioprospectors potentially searching over large geographic areas. The issues are physical and environmental and are directly related to the exploitation of natural resources. The DEIS states on page 5 that commercial bioprospecting isn't limited to thermal pools: "Studies of park resources, including rare bacteria and unique plants and animals, expand beneficial scientific knowledge, and research results occasionally generate substantial commercial profits." There are numerous issues with the potential for actual physical impacts which the DEIS fails to analyze.

The Court has already noted that the Yellowstone-Diversa CRADA covered a wide array of park ecosystems and included trees, plants, soils, rocks and other park wildlife. [15] Yet the scant discussion of Servicewide Impacts on pages 124-126 of the DEIS contains no discussion of environmental impacts to natural resources and instead erroneously concludes that all impacts are informational and monetary, and can be described as beneficial.

By the NPS's own admission, the source areas for bioprospecting contain an untold number of unknown organisms and less than 1% are catalogued. [16] Given that admission, bioprospecting activities, using the language of NEPA, "involve unique or unknown environmental risks" with "highly uncertain effects." All organisms have population dynamics and habitat requirements, yet little if anything is known about these dynamics and requirements of the likely candidates for bioprospecting. Nevertheless, there are "reasonably foreseeable" potential impacts that must be revealed in the DEIS.

NEPA §1502.22(a) states that "agencies shall insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements." The regulations mandate that when "there is incomplete or unavailable information" concerning "reasonably foreseeable significant impacts on the human environment," an agency must either: (1) if the information "is essential to a reasoned choice among alternatives" and the overall costs of obtaining it are not exorbitant, obtain and include the information in its analysis or (2) if the

information "cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known," include in the EIS a statement making clear the unavailability of the information, use "existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment," and "evaluate impacts based upon theoretical approaches or research methods generally accepted in the scientific community." The courts have found this mandate to be binding. In *Fritiofson v. Alexander*, the Court noted, "NEPA requires that an agency candidly disclose in its EIS the risks of its proposed action." [17] The NEPA regulations in § 1502.22 state that an agency must make clear in an EIS that there is incomplete or unavailable information.

Yet, in this case, the DEIS contains neither a discussion of environmental and human impacts or a statement that there is unknown or unavailable information. It simply states there are no impacts and that NEPA is applied at the permit issuance level. By this tactic, the NPS attempts to evade the "hard look" required by NEPA. Further, according to DEIS estimates, negotiating a new CRADA will require a high-end estimate of 0.18 FTE staff time, and the more CRADAs, the less time spent per agreement. This amount of staff time is clearly inadequate for scientifically credible NEPA compliance.

If the NPS does not take the required "hard look" at the programmatic, servicewide level, then it will be forced to perform this extensive analysis at the individual CRADA level, requiring far more resources in time, staff, and money than the Service has revealed in the DEIS.

While the District Court declined to specify exactly what to study, the Court clearly instructed NPS to fully comply with the NEPA in preparing an environmental statement for public review and comment and also provided several pointed examples of the potential environmental impact and injury that commercial bioprospecting potentially represents. For example, the Court wrote: "...the introduction of commercial bioprospecting into the nation's parks represents a dramatic change in Park Service policy both in Yellowstone and more generally. With regard specifically to Yellowstone, the defendants have offered no persuasive counter to plaintiffs' assertion that the CRADA, on its face, allows for a tremendously broad range of activities spanning a broad range of ecosystems." The NPS has done little to address - and therefore much to exacerbate - the original concerns for the impacts from a potentially "broad range of activities spanning a broad range of ecosystems".

2. Cumulative Impacts & Effects

NEPA § 1508.25(c) requires a complete disclosure and analysis of cumulative effects. However, the discussion of Cumulative Impacts on page 112 of the DEIS, so central to NEPA compliance, contains no information to the cumulative impact of commercial bioprospecting on park natural resources even though the NPS knows that commercial bioprospecting will apply to "soils, trees, plants, animals...and may influence profitable resource access by other industries besides those

concerned with biotech/microbiology." Moreover, there is no discussion of the cumulative impact of perhaps several dozen simultaneous bioprospecting operations covering vast areas of national park system lands. There is also no analysis of the effect a "major commercial" find might have on the number of bioprospecting permits issued. A "bioprospecting gold mine" might encourage a rush of commercial bioprospectors. Inexplicably, the DEIS only describes cumulative impact relative to interpretive services provided by the NPS to park visitors.

With respect to cumulative actions, the courts have noted that CEQ regulations require connected, cumulative, and similar actions to be considered together in the same EIS. When proposals up for decision are functionally or economically related, those proposals must be considered in one EIS. The analysis must not only include impacts from actions that are merely being contemplated at this time, but also those that are "reasonably foreseeable." [18]

In respect to this DEIS, future commercial bioprospecting CRADAs are reasonably foreseeable and even likely. However, NPS states that NEPA analysis will be applied at the individual permit level, thereby ignoring the cumulative effects analysis of reasonably foreseeable actions the program is likely to precipitate servicewide.

The courts have also found that, "To consider cumulative effects, some quantified or detailed information is required. Without such information, neither the courts nor the public, in reviewing the Forest Service's decisions, can be assured that the Forest Service provided the hard look that it is required to provide." [19] Without such quantified and detailed information in this case, we are forced to come a similar conclusion.

3. Irreversible and Irretrievable Commitments of Resources

On page 146, the DEIS presents its analysis of irreversible and irretrievable commitments of resources in one sentence: "Alternative B would not result in the temporary or permanent loss of any resources." NEPA requires far more than simple declarative statements. There must be some analysis presented to support such a sweeping declaration. After all, living organisms are being removed from their habitats.

If one accepts the NPS rationale that "research results" obtained from biological specimens removed from the National Parks can be commercially developed, then there is also no question that this process represents an "irreversible and irretrievable commitment of resources" under the language and regulations of NEPA. At a minimum, the "research result" or "valuable discovery" would be lost to the public domain. The rights to this discovery, and the majority of the potentially enormous profits it could yield, would flow to private commercial enterprise. It is in this sense that there would be an irreversible and irretrievable commitment of NPS resources. We will not examine the obvious case where individual organisms may be lost to the park.

4. Lack of Reasonable Alternatives

NEPA § 1502.14(a) requires that agencies must "rigorously explore and objectively evaluate all reasonable alternatives." A primary purpose of NEPA is to prevent an agency from presenting only its own viewpoint concerning environmental impacts. "Perhaps most substantively, the requirement of a detailed statement helps insure the integrity of the process of decision by precluding stubborn problems or serious criticism from being swept under the rug." [20] Thus NEPA requires the NPS to objectively disclose and evaluate views or evidence which contradict its proposed course of action or preferred alternative. Under NEPA, the agency must discuss any "responsible opposing view." [21]

Yet this DEIS does not contain a discussion of opposing views. It simply states they have been incorporated into one of the alternatives, without identifying the specific opposing views or how they have been addressed within the given alternatives.

Based upon the public comment the NPS received and the existing mandate of NPOMA to create and participate in CESUs, the NPS should have included a Science in the Public Interest Alternative. That alternative would have relied on federally and publicly funded researchers to make "beneficial" research discoveries the benefits of which would reside in the public domain. Instead of including such an alternative, the DEIS narrowly cast the alternatives as a choice -- we would say a false choice -- between commercial bioprospecting with increased benefits to the Parks and society or no commercial bioprospecting and no increased benefits.

NEPA specifically requires an agency to consider a reasonable alternative: "Although there is no need to consider alternatives of speculative feasibility or alternatives which could be changed only after significant changes in governmental policy or legislation, the EIS must still consider such alternatives to the proposed action as may partially or completely meet the proposal's goal and it must evaluate their comparative merits." [22]

As posited in the DEIS, the central aim is to make additional research discoveries that will enhance NPS resource management and protection as well as enhance interpretive programs and signage for the increased enjoyment and understanding of the visiting public. But the DEIS does not consider all the options for achieving this. In particular, the DEIS is deficient in its omission of an alternative in which microbiological and other research in the public interest is conducted by park staff or staff from other public agencies. Even were we to grant the argument about the Parks being "laboratories," the NPS does not present any information whatsoever to explain why it cannot hire its own microbiologists to conduct research and make discoveries that can improve health, safety, and productivity in the public interest. NPS never even considers the public research possibility (or how that possibility might be realized). Perhaps it was this lack of considering this possibility that allowed the NPS to make the unsubstantiated claim in the DEIS that only through huge personal gain will researchers have the motivation and means to make

such discoveries. The NPS supposition about motivation and means completely ignores the motivation and accomplishments of many federal laboratories and research centers. It ignores the example of such agencies as the Centers for Disease Control, where public service scientists search for vaccines against such threats to public health and safety as the avian flu, and conduct extensive research in the public interest.

If, as the NPS claims, the National Park Service does not possess the required expertise, there is nothing to prevent the NPS from entering into cooperative research agreements with other federal agencies, and to receive, on loan, staff from other federal agencies with the desired skills and expertise. In fact, on pages 109-110 the DEIS describes how the NPS, acting through the NPS Natural Resource Challenge, participates in 17 Cooperative Ecosystems Studies Units (CESUs) to conduct research on NPS resources: "CESUs are yet another program supported by the Natural Resource Challenge and required by NPOMA which provides research, educational opportunities, and technical assistance in the biological, physical, social, and cultural sciences necessary to manage NPS natural and cultural resources. As of August 2005, there were 13 federal agencies, 160 universities, and 39 other partners involved in CESUs." Surely this array of public research assets and technical assistance would allow NPS to conduct its own scientific research in the public interest. And surely this approach would represent a clear and distinct alternative to reliance on commercial bioprospecting to fulfill the hoped-for research functions.

For the cost that the NPS projected for administration, including negotiation and management of CRADAs, the NPS instead could have (a) hired its own research grade biologists to conduct research in the public interest or (b) taken the option of working with the Cooperative Ecosystems Studies Units (CESUs) to obtain the necessary expertise while fulfilling its obligations under NPOMA. These approaches would have yielded the same benefits claimed under the B alternatives, but with all the benefits going to the public. Unfortunately, this Science in the Public Interest Alternative was not included in the DEIS, apparently because the NPS had a pre-decisional bias in favor of commercial bioprospecting.

A Science in the Public Interest Alternative could reap critically important benefits. It could: 1) protect the parks from commercial natural resource exploitation, 2) encourage scientific research in the public interest and domain, and 3) establish baseline data on thermophiles and other resources. The Science in the Public Interest Alternative would take the best of the projected benefits from Alternatives C & B, without at the same time adopting B's potential for keeping information from the public.

5. Impacts on the Human Social Environment -National Precedent

Numerous courts have found that NEPA requires federal agencies to include meaningful consideration of fundamental factors within environmental impact analysis. [23] Under the Administrative Procedure Act, [24] an agency can be found to be "arbitrary and capricious" in its

NEPA analysis. In *Motor Vehicles Manufacturers Association. v. State Farm Mutual*, the Court ruled that, "Normally, an agency rule would be arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider, *entirely failed to consider an important aspect of the problem*, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise." [25] (emphasis added)

In this DEIS, the NPS has failed to discuss or analyze the impact of its proposed benefit sharing policies on the American people's perception of and regard for the National Park System, as well as on their aesthetic and recreational interests. Rather, the NPS on page 82 characterizes the social environment of potential impact as containing researchers and NPS personnel only, with no recognition of their plan's impact on the American public. In fact, the District Court provided the NPS with an opportunity to comprehend the significance of NPS's "dramatic shift in park management policy" and the impact it would have on the public users and owners of the National Park System when the Court wrote, "This ignores the reality that the commercial nature of an activity can and does affect its impact on the subject environment and particularly on people's aesthetic and recreational interests in the Park. Although parkgoers may be willing to forgive the trespass of their national parkland when the goals of that trespass are scientific and educational, commercial exploitation of that same parkland may reasonably be perceived as injurious. This commonsense notion has not even been challenged in other contexts." The Court went on to say, "There is an undeniable reality that commercial activity is qualitatively different than scientific and educational activity of a similar nature, due to the very different forces and motivations that drive them."

The NPS has had a long time to consider the impact to the public perception of and regard for the NPS and the quality of its stewardship. The failure to assess the national precedent the commercial bioprospecting program would set is particularly egregious since, as the Court noted in its ruling, documents obtained through the Freedom of Information Act show that Park Service officials knew as early as 1996, ten years ago, that commercial bioprospecting would apply systemwide. [26] Moreover, one memorandum stated "any precedent set will affect all parks, and may influence profitable resource access by other industries besides biotech/microbiology." [27]

The importance of the impact of commercial bioprospecting - "profitable resource access" - on public perceptions of the meaning (and public nature) of the parks cannot be underestimated. Proposed commercial bioprospecting has been the subject of at least two law review articles, including *Are National Park Resources for Sale?* and a lengthy piece in *Ecology Law Quarterly*. [28] Numerous major media articles have also been published.

The NPS could easily have obtained the services of an unbiased party to develop a survey to be presented to park visitors and other interested members of the public to help sample and

characterize this impact. Certainly, there are methods available that would have uncovered the information.

The Parks have meaning to the public and the effects of all the alternative policies on that meaning must be acknowledged and assessed.

6. Impacts on Congressional Appropriations

The DEIS claims that the document is not about appropriations. Yet the public comment record shows that many who commented were concerned that commercial bioprospecting might result in lower congressional appropriations and more pressure to commercialize park resources in order to obtain management and operating budgets. The NPS concludes that this issue is beyond the scope of the present analysis, conveniently forgetting that funding was one of the reasons for pursuing bioprospecting in the first place.

Further, should NPS proposals have adverse effect on public sentiment about the Parks, lowered levels of public commitment may lead, directly or indirectly, to lowered Congressional appropriations for the Parks.

7. Inadequate Mitigation Measures to Prevent Conflict of Interest

NEPA § 1502.14 (f) directs agencies to "Include appropriate mitigation measures not already included in the proposed action or alternatives." In this DEIS, however, NPS provides only an inadequate mention of mitigation measures, simply stating that they will be developed. Further, this section of the DEIS does not outline several areas of potential conflict of interest. For example, there are potential revolving-door issues in situations where an NPS employee working on a CRADA project may decide to leave the NPS and go to work for the company involved in the CRADA.

Another serious problem, one which would affect the NPS Preferred Alternative, involves a statement on page 44 of the DEIS: "Individual park units that are identified as federal laboratories would receive and use the benefits resulting from a benefits-sharing agreement." This policy of benefit apportionment represents a built-in system for potential abuse of discretion in the issuance of permits, favoring commercial bioprospectors and opening the door for conflict of interest in permit issuance and environmental impact review. The policy raises the prospect that research staff within the parks may be - or may perceive themselves to be - subject to performance evaluations based upon the number of CRADAs they successfully negotiate, thus biasing the entire Park research program towards commercial bioprospecting. The policy also raises the specter of individual park units with similar biota competing with each other for perspective CRADA partners, with all the potential such competition might engender for a race to the bottom in Park benefits. The DEIS does not examine these issues and so does not explain

how they will be mitigated or resolved.

Unfortunately, the appropriate section of the DEIS neither outlines potential avenues for conflict of interest nor sets forth a procedure for developing the mitigation measures to come. With no vision of what needs to be mitigated, how mitigation measures will be arrived at, or how mitigation measures may play out differentially in the different alternatives presented, the NPS has made it difficult, if not impossible, to responsibly judge the impacts of each alternative.

8. Cost/Benefit Analysis

NEPA § 1502.23 requires cost-benefit analysis when such analyses are important to evaluating the differences among alternatives.

The narrow analysis provided in the DEIS does not measure the differences between different approaches, in part because not all potential alternatives have been presented. For example, given the alternatives the DEIS presents (and the absence of a Science in the Public Interest Alternative), the public cannot know:

- the cost difference between the cost of administering commercial CRADAs and the cost of funding research in the public interest, using NPS and other federal employees; or
- the difference in benefits (both monetary and non-monetary) between benefits derived from discoveries made in the public interest and residing in the public domain and those made for purely commercial goals and residing firmly in the private domain.

NEPA requires that cost-benefit analysis take into account non-monetary values. We have already noted the absence in the NPS analysis of any consideration of the impact of the proposals on the public's perception of and regard for the National Park System itself -- what some economists might term the "existence value" of the Parks to the people of the United States. [29] Here, we note the absence of any cost/benefit analysis of changes to that existence value occasioned by each of the presented alternatives, or by the absent Science in the Public Interest Alternative.

The absence of any consideration of the potential cost to the meaning of the parks for the people and legislators of the U. S. is inexplicable, given that the existence value is hardly a new concept and that this DEIS has taken a very long time to be published.

Finally, the DEIS cost-benefit analysis is sorely lacking in its consideration of the costs associated with negotiating and administering CRADAs. Important aspects of the analysis are not provided. For example, the DEIS does not indicate what level GS employees will be required to work on the CRADAs or assist individual park research staff. This makes cost/benefit

comparisons difficult. Further, NPS staff will have to come from the regional and national offices and so there may be extensive travel costs associated with their work. These costs are nowhere noted.

B. Commercial Bioprospecting Violates the Wilderness Act and NPS Management Regulations for Designated and Recommended Wilderness

The National Park System includes vast areas designated by acts of Congress as Federal Wilderness Areas. [30] Over 40 million acres of designated wilderness exists within the National Park System. Additionally, there are millions of additional acres that are eligible or "recommended for wilderness." The DEIS and its proposed policy fail to address the potential impacts to wilderness or even acknowledge that Wilderness exists within the national parks. This is a glaring oversight because the vast majority of national park lands are subject to wilderness laws and policies, which place these lands off-limits to commercial bioprospecting. As explained below, this prohibition applies to the more than 80 percent of national park lands that are designated as wilderness, recommended wilderness, and potential wilderness.

The Wilderness Act, § 4(c) states that, "Except as specifically provided for in the Act, and subject to existing private rights, there shall be no commercial enterprise within any wilderness area designated by this Act." [31] Exceptions for visitor services which support the recreational use of Wilderness apply primarily to guides for hiking, camping, fishing, hunting, climbing, and horseback riding. Commercial bioprospecting would clearly be a "commercial enterprise" that is prohibited within wilderness areas.

This prohibition applies even if the proposed activity might benefit non-commercial interests as well. The Court, in *Wilderness Society v. United States Fish and Wildlife Service*, [32] found that, "The language, purpose and structure of the Wilderness Act support the conclusion that Congress spoke clearly to preclude commercial enterprise in designated wilderness, regardless of the form of commercial activity, and regardless of whether it is aimed at assisting the economy with minimal intrusion on wilderness values."

In that same decision, the Court went on to note that the prohibition applies even if there was no impact from the commercial activity on the Wilderness or natural environment: "There is no exception given for commercial enterprise in wilderness when it has benign purpose and minimally intrusive impact." [33]

As already noted, National Park Service policies generally provide the same level of protection for and proscribe commercial enterprise on several categories of land, including eligible, study, proposed, recommended, potential and designated wilderness. [34] Combined, these categories of "wilderness" apply to more than 80 percent of the lands within the National Park System. In

Yellowstone National Park, for example, NPS policies would ban commercial bioprospecting on more than 90 percent of the park.

The DEIS needs to be modified to acknowledge the unlawful effects of the proposed action on wilderness lands within the parks. And, at a minimum, the proposed action and alternatives need to be modified to exclude from bioprospecting all designated wilderness lands, as well as all eligible, study, proposed, recommended and potential wilderness areas.

IV. Additional Problems

A. Transparency

Whatever the intentions of the NPS, the other parties to CRADAs may designate part of the CRADA as confidential business information. The public will have no effective means of accessing this information, not even the Freedom of Information Act.

The DEIS fails to contain a discussion regarding the likely lack of transparency associated with its proposals. For example, under the Freedom of Information Act, [35] there are several exemptions allowing agencies to withhold information from public view. Moreover, NPOMA § 207 states: "Information concerning the nature and specific location of a National Park System resource which is endangered, threatened, rare, or *commercially valuable*, may be withheld from the public in response to a request under section 552 of title 5, USC." (emphasis added) In this sense, and in the sense mentioned earlier in our comments, a CRADA will not be compliant with goals of complete transparency. Even the very geographic location of the activity may be made secret, and, under FOIA, kept secret. Thus, the public and independent scientists may have no way to objectively judge a project's impact on the environment. Potentially, the public may not even be able to know whether a project will take place within occupied endangered species habitat, or in designated or recommended wilderness, or whether the project will involve what is precluded in § 3 of the National Park Service Act, notably the lease, rental, or grant of natural curiosities, wonders, or objects of interest "on such terms as to interfere with free access to them by the public." The public will not be able to judge whether its own "free access" to certain areas will be precluded for unannounced commercial reasons. These are not trivial concerns and NEPA regulations require that they be disclosed in an EIS and their impacts analyzed.

It is doubtful that NPS has the authority, acting through a CRADA or any other vehicle, to override a commercial interest's desire to invoke FOIA and NPOMA exemptions. Thus any CRADA will effectively allow details to be withheld from the public at the discretion of a commercial party.

The DEIS should make clear that under any alternative that allows commercial bioprospecting,

the public will not have the right to view (or necessarily be able to access) all aspects of the CRADA and the subsequent scientific analysis, by-products and "research results", nor will NPS have the legal right to compel commercial bioprospectors to release such information against their will. Knowledge of this effect of allowing commercial bioprospecting and using of CRADAs is vital to the public's ability to objectively weigh the differing "benefit sharing" alternatives.

B. Enforcement Provisions

The DEIS does not outline crucial enforceability issues. It even states on page 41 that the burden of coming forth to negotiate a CRADA rests with the researcher. Such lack of assertive oversight could facilitate greater secrecy by researchers, particularly those with primarily commercial motives, than the law might allow. The DEIS must stipulate the methods for oversight and enforcement of CRADAs so that the public can judge whether any of the alternatives provided would feasibly operate in the public interest.

C. Benefit Sharing Options Not Mentioned

Throughout the DEIS analysis, only one form of benefit sharing agreement is considered: the CRADA. Given all the problems associated with this legal vehicle, particularly its lack of guarantee of transparency, and given the apparent NPS determination to proceed with commercial bioprospecting, the NPS should have considered other forms of benefit sharing, including the use of fully transparent contracts made available for public view. This is a particularly egregious omission.

D. Costs of Preparation

Since one of the costs of creating a "benefit sharing" policy at the NPS is the cost of designing the policy, including the cost of writing the DEIS, and since this DEIS is likely to be prelude to many other (larger and smaller) DEISs in relation to benefits-sharing, it would have been helpful for the public to know about the costs entailed in developing this policy and the cost entailed in writing this particular DEIS, including the costs for meetings, consultant fees, and transportation, and information about how all those costs were determined, distributed, and financed. Such considerations would help the public to decide whether all the hard work was worth it.

V. Conclusion

As written, the DEIS is deficient on numerous grounds and is in violation of numerous sections of the NEPA regulations. It is also in violation of The Wilderness Act and the Administrative Procedure Act. It is our view that this DEIS must be withdrawn, its deficiencies corrected, and the *improved* document circulated for public comment as a Supplemental Draft Environmental

Impact Statement. NEPA § 1502.9 provides for supplementing draft and final environmental impact statements. The test for deciding when to supplement is the same "significance" test used to decide whether to prepare an EIS. "In this respect the decision whether to prepare a supplemental EIS is similar to the decision whether to prepare an EIS in the first instance: If there remains 'major Federal action' to occur, and if the new information will 'affect the quality of the human environment' in a significant manner or to a significant extent not already considered, a supplemental EIS must be prepared." [36] Here, both the new and missing information constitute a "major federal action significantly affecting the human environment" and a supplemental DEIS should be prepared.

Lastly, we note the omissions in our own comments. We have discussed our concerns about the DEIS at some length and everywhere we have focused on what NPS has presented and what we have found lacking or incorrect in that presentation. We have hardly acknowledged what was for some of us our most profound disappointment, notably, the appearance of a lengthy environmental impact statement, seven years in the making by an agency with a mission of stewardship, that barely touched on issues of preservation and conservation. [37]

VI. Submission Details

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VII. End Notes

1. National Park Service U. S. Department of the Interior. Benefits-Sharing Draft Environmental Impact Statement, September 2006. Servicewide.
2. Yellowstone Park Act of 1872, 17 Stat. 32-33.
3. The Antiquities Act. 16 USC 431 et seq.
4. National Park Service Act. 16 USC 1.
5. General Authorities Act. 16 USC 1a-1.
6. National Parks Omnibus Management Act of 1998. 16 USC 5931.
7. Yellowstone-Diversa Cooperative Research & Development Agreement.
8. *Edmonds Institute, et al. v. Babbitt, et al.* 93 F. Supp. 2d 63 (DDC 2000).
9. *Edmonds Institute, et al. v. Babbitt, et al.* 93 F. Supp. 2d 63 (DDC 2000).
10. Federal Technology Transfer Act. 15 USC 3701
11. *Edmonds Institute, et al. v. Babbitt, et al.* 93 F. Supp. 2d 63 (DDC 2000).
12. *Edmonds Institute, et al. v. Babbitt, et al.* 93 F. Supp. 2d 63 (DDC 2000).
13. National Environmental Policy Act. 42 USC § 4332 (2)(C).
14. 40 CFR § 1502.1.
15. Yellowstone-Diversa CRADA.

16. *Edmonds Institute, et al. v. Babbitt, et al.* 93 F. Supp. 2d 63 (DDC 2000).
17. *Seattle Audubon v. Mosely*, 798 F. Supp. 1473, 1482 (W.D. Wash. 1992).
18. *Fritiofson v. Alexander*, 772 F.2d 1225 (5th Cir. 1985).
19. *Muckleshoot Indian Tribe v. U. S. Forest Service*, 177 F.3d 800, 809-10 (9th Cir. 1999)
20. *Silva v. Lynn*, 482 F.2d 1282, 1285 (1st Cir. 1973)
21. *Seattle Audubon Society v. Lyons*, 871 F. Supp. 1291, 1318, W.D. Wash. 1994.
22. *Natural Resources Defense Council v. Calloway*, 524 F.2d 79 (2d Cir. 1975).
23. *Foundation for North American Sheep v. U. S. Department of Agriculture*, 681 F.2d 1172, 1178 (9th Cir. 1982).
24. Administrative Procedure Act. 5 USC 701 et seq.
25. *Motor Vehicles Mfrs. Assn. v. State Farm Mut.*, 463 US 29, 43 (1983).
26. *Edmonds Institute, et al. v. Babbitt, et al.* 93 F. Supp. 2d 63 (DDC 2000).
27. *Edmonds Institute, et al. v. Babbitt, et al.* 93 F. Supp. 2d 63 (DDC 2000).
28. Michael D. Wood, 2000. Are National Park Resources for Sale?, *Public Land Law Review* 21, University of Montana School of Law, Missoula.
29. For those unfamiliar with “existence value” in economic analysis, see Frank Ackerman and Lisa Heinzerling. **Priceless: On Knowing the Price of Everything and the Value of Nothing.** The New Press: New York, 2004.
30. The Wilderness Act. 16 USC 1121 et seq.
31. 16 USC 1133(c).
32. *Wilderness Society v. United States Fish and Wildlife Serv.*, 353 F.3d 1051 (9th Cir. 2003)(en banc)(amended 360 F.3d 1374 (9th Cir. 2004)).
33. *Wilderness Society v. USFWS.* (9th Cir. 2003).
34. NPS Management Policies 6.3.1
35. Freedom of Information Act. 5 USC 552.
36. *Marsh v. Oregon Natural Resources Council*, 490 U. S. 360, 109 S. Ct. 1851 (1989) 361, 373, 374.
37. The expectation was that potential environmental and population impacts related to bioprospecting (including increased bioprospecting over time), e.g., changes over time in population dynamics and constituents, would be addressed in this DEIS. See, e.g., Robert Lindstrom, Robert F. Ramaley, and Richard L. Weiss Bizzoco, 2002, Invisible Invasion: Potential Contamination of Yellowstone Hot Springs by Human Activity, *Western North American Naturalist*: 62:1, 44 ff.