

Evaluating the Recreation Service Recovery: Evaluation of Prince William Sound User Experience

EXECUTIVE SUMMARY

The project provides a contemporary analysis of user experience in Prince William Sound in order to: a) evaluate existing management situation to determine if users are experiencing the qualities/attributes for which managers have planned; b) assess the recovery of the recreation/tourism service, which was impacted by the Exxon Valdez oil spill (EVOS) and currently listed as “not fully recovered” by the Trustee Council; and c) describe human use patterns and understand the potential for displacement resulting from competition between user groups (i.e., injured services, like subsistence and recreation tourism) as well as evaluate the intensity of overlap with resources injured by the spill. The project evaluates user activities, impacts, conflicts, and experiences (including concerns and perceptions) in the Sound. It provides much needed insight into the recovery of recreation/tourism services and understanding of the current spatial and temporal patterns of use. Improved understanding of both the experiential and distribution dynamics of recreation will provide land and resource managers with tools to evaluate potential impacts to injured resources and human services.

Our study evaluating recreation user experience has three methodological components: Transect Surveys, Recreation User Profile Questionnaires and Recreation Focus Groups. It employs a variety of spatial analytical techniques to summarize use patterns and make predictions about use dynamics based on behavior data collection components.

Transect surveys were executed during spring, summer and fall between 2007 and 2008 using paired teams of observers aboard motorized vessels in spring and fall and kayak-based paired observers during summer. Observers continually mapped the locations of vessels, shore parties and aircraft encountered along the transect and kayak-based crews compiled similar data from fixed shore observation points in combination with their survey efforts. The distance of encounters and closest approach were also recorded.

We also distributed 1,377 recreation user questionnaires to recreation users departing from Whittier, Valdez and Cordova during the summer of 2008. This survey posed questions about motivations, desired opportunities, satisfaction with recreation experience relative to expectation, and encounter dynamics; it also asked respondents to log their trip using a map document diary. Additionally, reported use locations from a 2005 trip diary study targeting recreation users in the Sound were evaluated. Questionnaire and trip diary reported use locations were compared to empirically identified use locations from transect and shore-based observations. Lastly the software Recreation Behavior Simulator was used to simulate potential use futures in Prince William Sound according to behavioral inputs collected from survey questionnaires.

Questions regarding varying levels of use density were posed to focus groups comprised of hunters, recreational power boaters, and kayakers using the Level of Sustainable Activity framework of inquiry. Focus groups were organized for inquiry sessions in the communities of Cordova, Valdez and Anchorage. They were presented with representative human use scenarios for three different sub-regions within the Sound known to have varying levels of existing use based on prior studies. They were asked to provide perspectives on the use levels presented as they related to their *ideal*, *expected*, and *maximum tolerable* scenarios of use for three different types of users.

A total of 4,172 km and 4,205 km of transects were completed during spring and fall respectively. Kayak-based observers conducted one-time inventories during summer for a total of 2,923 km of transects. Transect efforts totaled 108 days worth of sampling between 6/28/2007 and 10/4/2008. Multiple crews of observers logged over 1,600 hours of combined transect and shore observations mapping the locations of over 3,100 encounters with other users. We found that the vast majority (~96%) of encounters with other groups of users happen on water and the majority of those (ranging from 66-80% depending on observers mode of travel) happen at distances >1000 m.

We were able to net 341 questionnaires from Whittier, Valdez and Cordova for a 25% total response rate which was consistent across all three ports of distribution. The majority of respondents were accessing the Sound by small motorized boat (65%), followed by kayak and motor yacht. These three categories of users comprised 90% of survey respondents. The top three primary motivations for destination choice included: *good fishing* (40%) *glacier viewing* (21%) and *wildlife viewing* (19%), with only 10% reporting that seeking solitude was a primary motivation for destination choice. When asked to identify the most sought after recreation opportunities in the Sound, people ranked *enjoying natural beauty* most highly, followed by *spending time with family and friends* and *fishing*.

Respondents were overwhelmingly satisfied with their recreation experience in Prince William Sound with 95% stating they would return and that their experience either met (23%) or exceeded (72%) their expectations. Over 90% of users reported no negative encounters with other groups and no respondents reported being displaced from desired use locations as a result of encounters with other users. Only 2 of 171 respondents reported seeing any sign of lingering oil from the spill, with another 170 respondents failing to answer the question.

The locations of 3,703 summer use points reported from diaries and questionnaires were found to have a strong positive ($r = 0.77$) correlation with 977 locations mapped during summer transect sampling efforts. This correlation was used as a basis to pool use locations from trip diaries/questionnaires with locations mapped during transect surveys. These points were pooled by season and used to produce use intensity prediction surfaces in the form of point density interpolation rasters in ArcGIS. These rasters allowed characterization of overall use in the Sound at the sub-regional level.

We conducted eight focus group sessions in Cordova, Anchorage, and Valdez with a total of $n=62$ participants from three user types. When comparing all three focus groups it is apparent hunters have the highest requirements for solitude and the lowest tolerance for competition. Because hunters are generally in the Sound in the spring and fall and therefore do not overlap the main summer recreational boating season, few conflicts are seen between hunters and kayakers or hunters and other recreational boats. Kayakers are generally tolerant of other kayakers because of the quiet mode of transportation and strongly shared values of low impact recreation but were less tolerant of small motorized boats because of the noise, speed, wakes and the impact motors have on quiet and solitude. Further kayakers felt that small motorized boats offered some competition for shoreline campsites. Kayakers are more tolerant of the larger motor yachts and sailboats because these boats are self contained and generally travel further from shore (ie., outside their typical travel lanes). Recreation boaters were the most tolerant of other users and their satisfaction seemed to depend the least on solitude.

We feel this study has defined a useful baseline for future comparison of both recreation use distribution and quality of recreation experience. This study defines spring, summer, and fall patterns of use that can be used as a baseline to explore recreation use overlap with biophysical resources and other human uses in Prince William Sound. We also establish useful techniques (including trip diaries, transect mapping and focus groups of local user communities) for managers to consider in future monitoring of recreation dynamics in the Sound and similar environments. Our predictions about human use were corroborated by a contemporary effort to identify Human Use Hotspots in Prince William Sound. The tight correlation of our systematic transect survey with user-reported locations suggest that the trip diary approach should be useful for evaluating future use distribution in the Sound. Significant limitations include an inability to gain broad insights into the hunting community in Prince William Sound, a group likely to have distinct sensitivity to potential increases in use. Further limitations in use mapping result from an attempt to complete a one time inventory of the majority of the region as opposed to repeat survey efforts that could return confidence intervals around use estimations.

Our study underscores the importance of managing for a landscape where wilderness qualities (e.g., natural beauty, plentiful wildlife for viewing, fish and game for harvesting and access to solitude) are available as part of the overall recreation experience. It does however demonstrate that other experiences such as simply viewing glaciers and spending time with family and friends are key aspects to the recreation experience in Prince William Sound. The successful recovery of recreation in the Sound is likely dependent on recognizing and facilitating key recreation opportunities sought by users in the region while maintaining a spectrum of available wilderness experiences.

The overall satisfaction with recreation experiences achieved, and desire to return, was very high, with survey respondents reporting little conflict with other user groups. We can infer from our transect observations that this overall satisfaction is linked to the infrequency of encounters and the substantial spatial separation during encounters afforded in this vast setting. Our investigation failed to identify a clear link between user satisfaction and relative levels of use though certainly our focus groups for hunters, and to a lesser degree kayakers, suggests that increasing amounts of specific user types can be troubling.

Given that there are some key experiences sought by recreationists in the Sound and the system that is not in “crisis” mode in terms of conflict, crowding or other social impacts, we recommend planning approaches that identify a few key issues and attempt to make systematic progress on them. We submit that attempts at addressing key issues should focus primarily on assessing, managing, and engaging with private recreationists as they constitute the majority of use in the region. This is problematic as these users typically have little connection or relationships with land and resource managers. Further, in many cases their direct use of the uplands may only account for a small portion of their trip; though certainly their activities have a potential social effect on those lands. Due to the vast extent of the PWS region, opportunities for managers to engage these users are limited to ports of entry. This suggests that indirect management efforts in terms of education or management actions that passively effect, direct or deflect use (ie., campsite hardening or other low impact facility options and outreach efforts identifying areas where more use is appropriate) are likely the best for this system.

Managers should attempt to foster more local citizen involvement in reaching out to visitors to the region. Our experience with individuals in our focus groups highlighted a perceived disparity in behavioral norms between *local* Sound residents and other residents of Alaska, as well as visitors, who may have less familiarity with traditions of use in the region. Managers should attempt to share the perspectives and advice of locals in best use practices that can be directed at newer users of the Sound. Such an effort could be combined with collecting systematic input on emerging issues in the region from local experts like those that we brought together in focus groups.

Much in wilderness/wildland recreation research and management focuses on evaluating or limiting numbers of individuals using the landscape in order to predict and reduce the social impacts. Our work highlights some of the complexities that can be missed by such approaches of singular focus. In the Sound, perceptions about encounters seem to have more to do with expectations, behaviors exhibited and witnessed, as well as the specific opportunities desired by different groups of recreationists. We suggest that future efforts attempting to assess quality of experience in Prince William Sound focus on understanding recreation behavioral norms and user expectations as approaches to further elucidate potential stressors on recreation experience.