PARTICIPATORY MAPPING FOR SUSTAINABLE ROADS PLANNING

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OUTLINE

- What is participatory mapping?
- Use of participatory mapping in sustainable roads planning: A collaborative approach
- Discussion
Participatory mapping is a way to gather information about what is important to people about their landscape using maps and other geo-spatial tools.

- Socio-cultural and economic values
- Human activities & uses
- Forest benefits
- Resource interactions
- Management preferences
WHAT CAN BE CAPTURED ON MAPS?

• Economic values and use areas
• Social, cultural or historic sites
• Hot-spots - areas of high visitor use or highly diverse use
• Areas needing attention (downed trees, erosion, slides, windfall)
• Desired forest conditions (OHV designated areas, trail networks)
• Unique site attributes (habitat, scenery, old growth, group camping)
• Roads for Desired Public Use
PARTICIPATORY MAPPING IS FLEXIBLE

Multiple Approaches

- Public meetings
- Websites/on-line mapping
- Targeted user groups
- On-site (visitor centers, trailheads)
- Events (fairs, farmer’s markets)

Public meeting for sustainable roads

Visitor mapping, WA state ferry
MAPPING RESIDENT PERSPECTIVES: OLYMPIC PENINSULA (2010-11)

GOALS
• Develop a method to map social values and resource uses at the landscape scale
• Design a protocol for use by land managers
• Promote community engagement
PARTICIPATORY WORKSHOPS

Exercise A. Social Values Map
“Pick 5 places important to you.”

Exercise B. Resource Interactions Map
“Pick 3 resource uses/activities and tell us where you go to do them.”

<table>
<thead>
<tr>
<th>Community Workshop</th>
<th>Number of Participants</th>
</tr>
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<tbody>
<tr>
<td>Aberdeen /Hoquiam</td>
<td>17</td>
</tr>
<tr>
<td>Shelton</td>
<td>17</td>
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<tr>
<td>Hoodsport</td>
<td>17</td>
</tr>
<tr>
<td>Quilcene/Brinnon</td>
<td>10</td>
</tr>
<tr>
<td>Port Townsend</td>
<td>18</td>
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<tr>
<td>Port Angeles</td>
<td>19</td>
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<tr>
<td>Forks</td>
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<tr>
<td>Quinault</td>
<td>39</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>169</strong></td>
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</table>

Mapping Tables
- 4 to 6 participants per table
- One 36 x 36” map per table
- Participants draw on maps
- 90 minutes
EXERCISE: Name 3 outdoor activities or resource uses that are important to you.

- Identify 5 places on the map for each activity.
- Tell us how often do you go there.
- Explain why you go there.
- Mark places on the map
Mapping reveals diversity in landscape uses.
Mapping reveals information about community priorities.
MAPPING VISITOR PERSPECTIVES (2012)

- On-site locations: trailheads, visitor centers, ranger stations, parks, ferry
- More than 300 respondents
- Smaller, individual maps (11 x 17”)
- Short survey (10 min)

Identify 5 places on the peninsula that are important to you.
Olympic Peninsula residents and visitors mapped vastly different areas.

Resident Mapping, 2011

Visitor Mapping, 2012
PARTICIPATORY MAPPING FOR SUSTAINABLE ROADS:
MT. BAKER-SNOQUALMIE NATIONAL FOREST

GOALS

• Engage the public about use and importance of forest roads
• Maps display public uses & priorities for forest roads
• Socio-spatial data for forest planning team
SUSTAINABLE ROADS STRATEGY

Ecologically sustainable

Socially acceptable

Economically feasible
SUSTAINABLE ROADS PLANNING PROCESS

January 2013  Internal planning
February  Alliance with research team: PNW/PSU
March  Bring in core partners (5-6)
April  Establish Sustainable Roads Cadre (SRC) 24 partners
May  Develop engagement process & protocol w/ SRC
June  Pre-test protocol; launch website, blog & online survey
July – Nov.  Engagement sessions (8) & online survey
Spring 2014  Share results w/ ID team, SRC, and districts
The Sustainable Roads Cadre now includes more than 45 partner groups and a core planning team of 5 partners.
SUSTAINABLE ROADS PUBLIC MEETINGS

Public Meetings

• Hosted & sponsored by SRC members
• Lead & facilitated by Forest Supervisor
• Research oversight (PNW Research Station)
• 10-14 volunteers (SRC)
• Spatial analysis (PSU)

<table>
<thead>
<tr>
<th>Public Meeting</th>
<th>Date</th>
<th>Attendance</th>
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<tbody>
<tr>
<td>SRC [pre-test]</td>
<td>5/29/13</td>
<td>22</td>
</tr>
<tr>
<td>Seattle</td>
<td>6/29/13</td>
<td>24</td>
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<tr>
<td>Sedro Woolley</td>
<td>7/9/13</td>
<td>22</td>
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<td>Issaquah</td>
<td>7/23/13</td>
<td>24</td>
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<td>Enumclaw</td>
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<td>Darrington</td>
<td>8/21/13</td>
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<td>Bellingham</td>
<td>9/10/13</td>
<td>52</td>
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<tr>
<td>Monroe</td>
<td>9/24/13</td>
<td>36</td>
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<tr>
<td>Everett</td>
<td>11/13/13</td>
<td>28</td>
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<tr>
<td>TOTAL</td>
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<td>284</td>
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PART A. FOREST DESTINATIONS

Destination Mapping

• Identify 8 forest destinations
• Why destination is important to you
• Activities you do there
• Frequency of visits
• Vehicle used
• Access route

ON THE MAP: Place a dot on the map for each destination. Use a highlighter pen to trace the route you travel to reach that destination.

6-7 participants and 2 volunteer facilitators per table.
PART B: GROUP DIALOGUE

A. What are the consequences of a reduced road system?
B. What criteria should the USFS use to decide which roads to prioritize?
C. What strategies, ideas, or opportunities could help adapt to changes?
PART C. QUESTIONNAIRE

- Demographic questions
- Frequency of forest visits
- Types of roads used
- Reasons for road use (pleasure, work)
- Prioritizing forest values
- Open comments

These data are linked with maps. Demographic information allows us to better understand who is attending the meetings and how to interpret maps.
DEMOGRAPHIC SUMMARY

- Average attendance: 31
- Gender: 74% male; 26% female
- Avg. years in area: 37 years
- Average age: 54 years
- Percent attending as official representative: 48%
- Percent who drive on USFS roads for work: 58%
VISITS TO THE NATIONAL FOREST

- 3-5 trips/week or more
- 1-2 trips/week
- 2-3 trips/month
- 6-12 trips/year
- 3-5 trips/year
- 2 trips/year or fewer
Mt. Baker-Snoqualmie NF
Combined Workshops

FOREST DESTINATIONS AND ROADS

- Destination Density:
  - low
  - high

- Road Density:
  - 1
  - low
  - high

Jurisdiction:
- USFS
- NPS
- STATE
- Workshop City

Roads:
- Forest Service
- County
- State
- State Highway
We observe differences between urban and rural residents.
We observe differences by user group.
ONLINE SURVEY

• Gender: 71% male; 29% female
• Avg. years in area: 32
• Average age: 51 years
• Percent attending as official representative: 4%
• Percent who drive on USFS roads for work: 38%

OVERVIEW

• 1,776 responded
• 1,510 valid entries
• 898 provided at least one forest destination

More than 45% of survey respondents were from urban King County
CONSEQUENCES

#1 Reduced Access:
- Backcountry
- Fire management
- Search & rescue; emergency services
- Cultural & historic sites
- Seniors, special needs, persons with limited abilities

• Economic impacts to local communities
• Crowding and over-use of remaining roads
• Increased habitat for fish and wildlife
• Reduced revenues for forest products and tourism industries
• Loss of public support for national forests
CRITERIA FOR DECIDING ROAD STATUS

- Diversity of activities a road may support
- Volume of public use
- Cost to maintain road
- Effect on local industries
- Ecological health
- Potential for connectivity and loops
STRATEGIES AND OPPORTUNITIES

• Volunteer brigades for roads maintenance (adopt-a-road)
• NW Forest Road Pass Program
• Require commercial users pay for roads
• Convert roads to trails
SUSTAINABLE ROADS PROCESS

Partners involved in multiple project phases
Variety of communities: rural, urban, virtual
Diversity of user groups & interest groups
Well supported by USFS officials
Multiple ways to engage:
  - Public meetings (284)
  - On-line survey (1700)
  - Blog-site commentary (200+)
Data being used by the Forest Travel Management planning team
• Builds local capacity
• Multiple scales
• Engages diverse partners
• Increases trust
• Generates data for use in planning
OTHER APPLICATIONS

• Places important to collaboratives
• Land management preferences
• Priority areas for restoration
• Preferred treatment strategies
• Responses to restoration treatments
• Ecosystem services (benefits to people)
Important Forest Places
• Benefits
• Uses/Activities
• Features
• Threats
• Management strategies

Strategies:
• Online survey
• Public events (I-pads)
• Targeted workshops

Partners:
• Discover Your Forest
• Portland State University
• Deschutes NF
• Ochoco NF
• USFS Pacific Northwest Region
DISCUSSION