Salmon River community is committed to protect, restore and maintain the Salmon River’s ecosystem and watershed health. Through the direction of the Restoration Council local residents participate in Workshops, Training, and Workdays specifying actions needed in effective noxious weed management. Community members also participate in the ADOPT-A-SITE AND DRIVER’S THAT CARE noxious weed control activities. Over 300 different people have participated. Other SRRC activities the community participates in are; fishery habitat and population surveys, river cleanup, fuels reduction, watershed education and many more. The local community embraces a strong land stewardship ethic.

Since 1997, over 2,000 volunteer person days have been contributed by the community to make this noxious weed demonstration project possible.
Step #2 – Planning

Management Strategy

Annual updates include and respond to new information, adapt management actions through observations, and summarize results. This plan is tied to the Salmon River Restoration Strategy. The 13 steps are used to guide the annual action plan.

Annual Action Plan

Each year we develop an action plan with the USFS and others to prioritize and schedule monthly noxious weeds management actions, both to control existing weeds and prevent new ones from establishing themselves.

Noxious Weed Ecosystem Prioritization Matrix

A species prioritization protocol has been established to prescribe management actions in response to the risk each species poses. The species evaluation includes looking at the species affect on ecosystem values, limiting factors and key influences, such as: fire, wildlife, vector potential, aggressiveness, etc.

A No Seed Threshold is a Key Goal for the Eradication of Class “A” Knapweed Species.

Environmental Assessment - USFS

In 2000 the Forest Service completed the first Environmental Assessment for controlling spotted knapweed in Region 5. The 2001, “Preferred Alternative” chose the use of Salmon River Community’s Manual Methods as the primary approach for eradicating knapweed in the Salmon River District, provided the evaluation criteria for successfully eradicating the Class “A” Knapweed species are met.
# Annual Calendar of Knapweed Activities

<table>
<thead>
<tr>
<th>2001</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>July</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
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<tbody>
<tr>
<td>1st Pass</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
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<tr>
<td>2nd Pass</td>
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<td>X</td>
<td></td>
<td></td>
<td></td>
<td>End 7/1</td>
</tr>
<tr>
<td>3rd Pass</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>End 8/1</td>
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<tr>
<td>4th Pass</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>End 9/30</td>
</tr>
<tr>
<td>Inventory of new sites</td>
<td>start</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>end</td>
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<tr>
<td>Adopt a site</td>
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<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Progress Report</td>
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<td>Newsletter</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workshops, Community Education</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workdays</td>
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<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special Rx plant seedlings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effectiveness Test Plots</td>
<td></td>
<td>collect data at Davis sites</td>
<td></td>
<td>monitor sites for flowering</td>
<td></td>
<td>monitor sites for seed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Salmon River Restoration Council**

2001 Knapweed Calendar of Activities
## CNWP Noxious Weed Species Prioritization Matrix

### SRRC NOXIOUS WEED ECOSYSTEM RISK RATING MATRIX

Key - Y=YES; N=NO; 1=highest; 2=med.; 3=lowest; +1,000 people days needed; M=manual; Mu=Mulch; B=Burn; Bio=Bio Control

<table>
<thead>
<tr>
<th>Species</th>
<th>Present</th>
<th>Ag class rating</th>
<th>Eco Rating</th>
<th>Eco-Chokes out</th>
<th>Eco-Poison</th>
<th>Eco-Fire</th>
<th>Mgt to Date</th>
<th>Best Treatment</th>
<th>Work Force Need</th>
<th>Vector Of spread</th>
<th>Overall Rating</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spotted Knapweed</td>
<td>Y</td>
<td>A</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>Y + 97</td>
<td>M</td>
<td>Mu</td>
<td>River, Cows, Sand cars, Road Work Waterfill vehicles firefighting logging</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>B</td>
<td>Bio</td>
<td></td>
<td></td>
<td>perennial Found on bars on North Fork, Mainstem &amp; Specimen Fire area</td>
</tr>
<tr>
<td>Diffuse Knapweed</td>
<td>Y</td>
<td>A</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>Y M 100</td>
<td>M</td>
<td>River, Cows, Sand Road Work Waterfill vehicles firefighting logging straw</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>B</td>
<td>Bio</td>
<td></td>
<td></td>
<td>perennial Found at Callahan Summit/ask Gouleys Cherry Creek Sawyers Bar Whites G.</td>
</tr>
<tr>
<td>Scotch Broom</td>
<td>Y</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>Y M</td>
<td>River, animals Ornamental</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Evergreen Coming from coast</td>
<td></td>
</tr>
<tr>
<td>Yellow Starthistle</td>
<td>Y</td>
<td>C</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>Y Bio Mu</td>
<td>River, Cows, Sand Road Work Waterfill vehicles firefighting, logging Straw</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Annual Painful Must wear gloves Need to expand Bio treatment</td>
<td></td>
</tr>
<tr>
<td>Marlahan Mustard</td>
<td>Y</td>
<td>B</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>Y Bio</td>
<td>River Hay</td>
<td></td>
<td></td>
<td>Bi-annual Comes from Scott V.</td>
<td></td>
</tr>
<tr>
<td>Mediterranean Starthistle</td>
<td>Y</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>Y Bio Mu</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Annual Painful Must wear gloves</td>
<td></td>
</tr>
<tr>
<td>Bull Thistle</td>
<td>Y</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>Y M 800</td>
<td>Wind Road Hay</td>
<td></td>
<td></td>
<td>Annual Painful Must wear gloves - seems to be bugs webbing seedheads</td>
<td></td>
</tr>
</tbody>
</table>
Step #4 – Prevention


• Learn to Identify noxious weed species
• Be aware of noxious weeds in your surroundings
• Communicate with weed managers and report findings
• Avoid transport of noxious weeds
• Eradicate noxious weed populations in your area
• Use weed free materials (hay, water, rock, feed, sand and gravel, etc.)
• Help recover disturbed sites with native vegetation.
Vectors Analysis and Management

Preventing the spread

Identify the potential ways weeds were introduced to each managed site and assess the populations risk and avenue of spread.

Events and Activities that influence the spread of noxious weeds:

• **Fire Suppression**: training fire crews, water hole drafting assessment and mitigations, ensure that fire camps, water sources, equipment and gear are weed free.

• **Road maintenance, improvements and restoration**: Avoid moving infested fill and gravel, mow or grade prior to weeds seeding.

• **Flooding**: keep the waterways clean of weeds

• **Resource users**: Avoid infested areas: campsites, trailheads, river access, log landings, etc. If unavoidable keep clear of weeds. Some resource uses with high potential locally include:
  
  - Mining
  - Forestry
  - Research
  - Recreation
  - Grazing
  - Residential

To help prevent the spread of noxious weeds it is important to:

- increase awareness amongst stakeholders and enlist cooperation;
- inventory all target species populations; **clean equipment or gear when entering or exiting the watershed**; use weed free materials such as: feed/hay, mulch, rocks, sand and gravel and water; and
- inventory and remove priority invasives from proposed sites prior to ground disturbance related to prescribed management.

**Vectors**

3 key vectors for the Salmon River are:

• Roads
• Waterways, rivers, creeks
• Trails, trailheads

**An area that is high priority for eliminating weeds is where the vectors overlap such as: river access, trailheads, etc.**

**High spread potential:**

• Resource use
• Resource Management

• **Ways weeds move thru watersheds:**
  1) New introductions from outside the area; 2) movement of weeds within the watershed; 3) Species escaping to neighboring watersheds.
Preventing the Spread
Several populations have turned up at River Access areas

Adult Knapweed found at stream access

Motorized access open to Kelly’s Bar (Mother Knapweed Site) for tanker fill, miners, sand and gravel source, range permittees, boating access & logging camps.

Knapweed population found at obscure tanker fill site in Shadow Creek.

Knapweed population found at river access at the 21 mile marker on the North Fork

Kelly Bar access was closed by the US Forest Service in 2000

Orange noxious weed flagging locates Knapweed Site

Area on Knapweed Site # 9 on Kelly Bar in winter of 1998/1999 where Garbage Bags full of all dug plants were burned. Bagging of plants has since been discontinued
Step #3 – Education/Outreach

**Education**

**ACTIVITIES**
- Workshops
- Workdays;
- Distributing information (posters, newsletters, handouts, web page and brochures);
- Field trips
- Presentations

**PARTICIPANTS**:
- Forks & Junction Schools
- Karuk Tribe
- Forest Service – Fire & Road Crews
- CA Fish & Game
- County Road Crew
- Americorps
- Fishermen and Guides Association
- Whitewater River Guides
- Inter-Tribal Salmon Camp
- Klamath River Outdoor School
- Otter Bar Lodge
- Yreka Homeless Shelter
- Environmental Groups
- Horse Packing Outfitters
* Resource Users-loggers, miners, grazers
Noxious Weed Meetings, Presentations, Field Trips, Training Conferences

SRRC has attended and provided posters at the International Knapweed Conference in Idaho and also at the CalEPPC Conferences in 2000. In 2001 the SRRC provided a Noxious Weed Control presentation to the Klamath Basin Fish and Water Symposium. Also in 2001 we trained and enlisted help from the 20 person USFS fire crew.

In 2002, over 50 Americorp Stewards received training and lent a hand Noxious weed prevention info was distributed at Forks Fire camp, where all vehicles were washed.

Talking about Salmon and how noxious weeds can affect them

Here at Blue Ridge Look Out Discussing Watershed Restoration during Klamath Basin Task Force Field Trip at

Students CNWP involvement

SRRC & USFS Poster Board at the 2001 International Knapweed Conference in Idaho

Presentation at Watershed Education Fair

Students Pull Mustard

Salmon River Watershed Center

Discussing CNWP at the SRRC Staff Meeting

Students CNWP involvement
Posters and Bulletin Boards

Noxious Weed Float at 4th of July Parade

CNWP Bulletin Board at Kelly Bar

Salmon River CNWP Poster Board Display

Tourist stops to read about CNWP info on interpretive sign by Blue Hole on the lower Salmon River

Watershed Welcome Poster highlighting CNWP
Various Life Stages of Spotted Knapweed
Salmon River Cooperative Noxious Weed Program

Step #5 – Mapping/Assessment

North Fork Spotted Knapweed Infestations

KEY:
- Spotted knapweed populations
Mapping/Assessment

• Once a site is located it is placed on the map. All known location are numbered on a Subbasin Map. Each site is associated with a file in the Inventory data base. These files provide site details.

• Maps and assessment areas are broken up into reach or area files

• Ground workers use the reach/area maps to locate sites.

• Each year high risk areas are surveyed and assessed for presence or absence. New areas assessed are typically either adjacent to known existing sites or in new suspected areas.

• All location are compiled onto one map at the end of each field year.

• Maps are shared between the cooperators and other interested parties.

In 2000, the SRRC Roads Inventory Crew were trained to identify knapweed. The crew surveyed all known roads in the North Fork and Main Stem of the Salmon River. Two new sites were located by the Road Survey crew. One was an adjunct population was in the wilderness. Most of the existing sites were located with GPS by this year.

In 2001 and 2002, the SRRC has been developing GIS/GPS map layers for specific noxious weed species, including: spotted and diffuse knapweed, scotch broom, yellow and Malta star thistle, and Marlahan Mustard. Other species of concern are also mapped when located such as: teasel, leafy spurge, and dalmation toadflax. High risk areas such as trailheads, tanker fill areas, river access, rock sources, and sensitive areas will be given extra attention.

Since 1997, a total of 185 knapweed sites have been located, mapped and inventoried.

Over 1,500 acres have been surveyed in high risk wild land areas with over 70 miles of river and stream corridor and 300 miles of roads and trails managed.
FIRE - Through the Salmon River Fire Safe Council, noxious weed control measures are being utilized in Fire Suppression, Planning and Fuels Reduction Work.

FISH - Cooperative Fish surveyors and fishermen help find new populations of knapweed and other species.

ROADS – Noxious weed awareness and response is creeping into all aspects of road use and management. Road Assessment Crews have located and used GPS to track adjunct populations of knapweed and other target species.
Step #6 - Adaptive Management for Manual Removal

- Burning - 1997
- Digging Techniques - 1998
- Plant Disposal/ Ducks – 1998
- Mulch - 1999

- Improved Inventory - 1999
- Monitoring Protocol - 2000
- GPS Sites - 2000
- Collect seed and flowering heads in zip lock bags 2001
- Watering seed beds - 2002

Adaptive techniques derived from Observations and Recommendations recorded annually
Mulch Treatments

Mulch Site #8P – 6/17/99

BEFORE
Mulch Treatments

Mulch Site #8P – 6/17/99

DURING
Mulch Treatments

Mulch Site #8P – 6/17/00

AFTER
Step #7 – Groundwork

EARLY DETECTION-RAPID RESPONSE – THOROUGH & PERSISTENT TREATMENT

The knapweed year is broken into halves, flowering and non-flowering, and each half will require a specific eradication tactic. All sites found previously receive at least 3 passes in which all plants are targeted for removal. We use previous inventory and site maps to develop weekly strategy for each pass. The first pass will eradicate all knapweed from all known sites. When needed, mulching is used in areas of high population density. During the second pass all known sites are cleaned of all weeds, if possible, and all areas in between and surrounding the sites are surveyed. The third pass covers the same area as the second pass, except the priority is to remove adult plants before they seed. During the fourth pass in late fall and winter crews visit and treat unsurveyed suspected areas, late bloomers, persistent juveniles, and plants hiding in deciduous vegetation are located and treated. There are over 160 population sites found on over 70 miles of the streams and river bars that are surveyed and managed. All areas within and adjacent to the high water level are covered. There are approximately 400 acres of upslope habitat managed. Knapweed control is coordinated on over 300 miles of roads and trails are managed. An estimated 1,500 acres are surveyed and managed annually. The SRRC tracks all information at each site during each visit. To prevent re-sprout the whole root is removed. Les’s homemade cookies are often a key reward for diggers.
Groundwork - continued

Bar Hoppin' down the river

Pittsburgh Mike’s biggest plant in 2002

Bagging flowers and/or Seeds

Another roadside attraction

Tools of the Trade
Step #8 – Inventory/Tracking

Daily Noxious weed data is complied into an inventory. Since 1997, USFS and SRRC have cooperatively kept inventory of spotted knapweed populations. The sample inventory shown below from the year 2000, shows the site number, location description, treatment date, organization applying treatment, the number of participants, the type of method applied, the number of juvenile and adult plants manually removed, the total number of juveniles and adults from 1999. Each day workers identify if they cleared sites of all plants or if site need to be revisited during the pass.

<table>
<thead>
<tr>
<th>Site #</th>
<th>Location</th>
<th>TX Date</th>
<th>Organization</th>
<th># pec</th>
<th>Method</th>
<th>Juveniles</th>
<th>Adults</th>
<th>99-J</th>
<th>99-A</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Grass flat RS below jim bridge Monitoring site</td>
<td>5/10/00* M NORCET</td>
<td>5/18/00 SRRC</td>
<td>1</td>
<td>HP/SC</td>
<td>300</td>
<td>350</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6/24/00 SRRC</td>
<td>4</td>
<td>HP/SC</td>
<td>60</td>
<td>50</td>
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<td></td>
<td>6/27/00 SRRC</td>
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<td>HP/SC</td>
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<td>5</td>
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<td></td>
<td></td>
<td>7/13/00 SRRC</td>
<td>3</td>
<td>HP/SC</td>
<td>4</td>
<td>6</td>
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<td></td>
<td></td>
<td>7/20/00 SRRC/Americorps</td>
<td>17</td>
<td>HP/SC</td>
<td>8</td>
<td>4</td>
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<td>3</td>
<td>HP/SC</td>
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<td>3</td>
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</tr>
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<td></td>
<td></td>
<td></td>
<td>8/29/00 SRRC/FS</td>
<td>7</td>
<td>Field Trip</td>
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<tr>
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<td></td>
<td></td>
<td>9/22/00 SRRC</td>
<td>4</td>
<td>HP/SC</td>
<td>167</td>
<td>3</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>596</td>
<td>421</td>
<td>5795</td>
<td>5276</td>
</tr>
</tbody>
</table>
SRRC Daily Reach File Maps

Example of River Reach # 3

Upslope Reach # 7A

These maps are used by field crews to locate existing and new sites and track daily work.
## REACH FILES

### Spotted Knapweed Reach #6B - Kelly's Complex

<table>
<thead>
<tr>
<th>Site</th>
<th>Location</th>
<th>Pos.</th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>Vector</th>
<th>Potential</th>
<th>Comments</th>
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<tbody>
<tr>
<td>5</td>
<td>First open grass flat</td>
<td>RR</td>
<td>5795-J</td>
<td>596-J</td>
<td>319-J</td>
<td>High</td>
<td>HIGH</td>
<td>99-est &gt;100</td>
<td>1 seeded in 01 - FS</td>
</tr>
<tr>
<td></td>
<td>downriver JV bridge</td>
<td>RS</td>
<td>5276-A</td>
<td>421-A</td>
<td>644-A</td>
<td>Water</td>
<td></td>
<td>1 seeded in 01 - FS</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>monitor site</em></td>
<td></td>
<td>&gt;11K</td>
<td>11071</td>
<td>1017</td>
<td>963</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>follow trail from #5</td>
<td>RR</td>
<td>1610-J</td>
<td>2155-J</td>
<td>276-J</td>
<td>High</td>
<td>HIGH</td>
<td>99-mulching on densest areas, '00-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>to next stake</td>
<td>RS</td>
<td>1731-A</td>
<td>533-A</td>
<td>330-A</td>
<td>Water</td>
<td></td>
<td>00-pulled up mulch, photo points a mulch</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>monitor site</em></td>
<td></td>
<td>&gt;200</td>
<td>3341</td>
<td>2688</td>
<td>606</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>follow trail from #6</td>
<td>RR</td>
<td>6124-J</td>
<td>2464-J</td>
<td>228-J</td>
<td>High</td>
<td>HIGH</td>
<td>99-est &gt;100</td>
<td>1 seeded in 01 - SRRC</td>
</tr>
<tr>
<td></td>
<td>to next stake</td>
<td>RS</td>
<td>561-A</td>
<td>964-A</td>
<td>390-A</td>
<td>Water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>monitor site</em></td>
<td></td>
<td>&gt;200</td>
<td>6685</td>
<td>3428</td>
<td>618</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>follow trail from #7</td>
<td>RR</td>
<td>67174-J</td>
<td>14081-J</td>
<td>2499-J</td>
<td>High</td>
<td>HIGH</td>
<td>3 seeded in 01 - SRRC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>to next stake</td>
<td>RS</td>
<td>12359-A</td>
<td>5868-A</td>
<td>1209-A</td>
<td>Water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>mother patch</td>
<td>(6s)</td>
<td>(3s)</td>
<td>(3s)</td>
<td>Animals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>monitor site</em></td>
<td></td>
<td>&gt;1200</td>
<td>79533</td>
<td>19949</td>
<td>3708</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>from top of pond down</td>
<td>RR</td>
<td>8752</td>
<td>3800-J</td>
<td>715-J</td>
<td>High</td>
<td>HIGH</td>
<td>99-est &gt;500, '00-high estimates</td>
<td></td>
</tr>
<tr>
<td></td>
<td>downriver from #8 to end of bar extending to curve in river</td>
<td>RS</td>
<td>10331-A</td>
<td>993-A</td>
<td>1095-A</td>
<td>Water</td>
<td>1 seeded in 00, 5 seeded in 01 - SRRC</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>through blackberries</td>
<td></td>
<td>&gt;100</td>
<td>19083</td>
<td>4793</td>
<td>1810</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Site History depicts annual population reduction at each site
Step #9 – Revegetation

One of the final steps to noxious weed management is establishing healthy native plant community on disturbed sites where weeds are present. Planting native plants provides competition for noxious weeds as well as helping to recover disturbed areas. In 2001, the SRRC grew and planted over 1,000 plugs of native grasses, willows, and conifers on noxious weed sites.

Willow planting at knapweed site at Kelly’s Bar

Native Plant Stewardship

Planting SRRC-Collected Cottonwoods and Willows at Petersburg Site

Students planting native grasses at Adopt-A-Site
Revegetation as Restoration

Cost Share Agreement between SRRC & USFS - Seed is being used on Restoration Sites on the Salmon River
Step #10 – Monitoring

UC Davis Extension Monitoring Protocol
The monitoring provides new scientific information about manual control methods for noxious weeds. In May 2000, a third party U.C. Davis Extension, the USFS, and SRRC developed a protocol for the evaluation of spotted knapweed control measures. This protocol was applied by a third party monitor – NORCET. The protocol evaluates annual changes in spotted knapweed infestations, and efficacy of manual control practices. Eight distinct monitoring sites representing the largest knapweed infestation levels were selected. Two evaluation methods are used: Random Sampling with a Ring Toss, and Presence Absence Sampling along Predetermined Transects. In May of 2001 & 2002, the protocol was applied to the monitoring sites. This scientific based monitoring criteria is being perfected and will provide a model for managers to determine effectiveness of eradication actions at the management unit level.

Monitoring Plots
The SRRC and USFS established monitoring plots to determine:
• effectiveness of manual applications at various scales
• specific life history information

SRRC Inventory
Daily inventory data is useful in comparing actual population levels and treatment results over a period of years. This method relies on meticulous tracking of all treatment and actions.
Total Numbers of Knapweed Plants Treated by Year Through Hand Digging, In the Salmon River

Grand Total of 450,537 Spotted Knapweed Plants Managed Through CNWP

* = in Nov. 1997 SRRC & USFS educated a core group to identify what Spotted Knapweed looked like, A few plants were treated on one workday,

** = 2002 data is preliminary.
Salmon River Cooperative Noxious Weed Program

Site 8 in early 1999

<table>
<thead>
<tr>
<th>Year</th>
<th>Population 8 Juvenile plants</th>
<th>Population 8 Adult Plants</th>
<th>Total Plants Dug</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>71000</td>
<td>9000</td>
<td>80,000</td>
</tr>
<tr>
<td>1999</td>
<td>66888</td>
<td>12736</td>
<td>79,624*</td>
</tr>
<tr>
<td>2000</td>
<td>14603</td>
<td>5144</td>
<td>19,747</td>
</tr>
<tr>
<td>2001</td>
<td>3346</td>
<td>4184</td>
<td>7,520</td>
</tr>
<tr>
<td>2002</td>
<td>147</td>
<td>297</td>
<td>444</td>
</tr>
</tbody>
</table>

* = estimated additional 50,000 plants were treated with plastic mulch at Site 8
The CNWP is starting a new group downriver in the Somes/Orleans area to locate and control new populations of spotted knapweed surrounding the Salmon River Watershed.
Monitoring - continued

1999 USFS Monitoring Plot in Site # 9
1,100 plants counted in 15 sq. Ft. area

In 1999 SRRC Volunteers dig and count 1,100 plants in 4 hours

SRRC dug & counted 4 plants in 2001
SRRC dug & counted 1 plant in 2002

Observations

- 180 sites were managed by the SRRC in 2002
- A total of 147 plants were known to have seeded in 2002
- No plants were found on 37 known sites in 2002

Juvenile Test Plot at Site # 8 in 2001 & 2002

Some first year plants bolted

BEFORE & AFTER
Step #12 – Support

Total SRRC Financial Support:
1998 – USFS $1,900
1999 – NFWF $10,000
2000 – 2001 – CA F&G $21,000
2002 & 2003 Sisk. RAC - $50,000 (unspent)
TOTAL FUNDING = $ 82,900

Coordination support has also been provided by the Klamath River Fisheries Task Force annually through the SRRC- Community Restoration Program.

SRRC Volunteer Support:

<table>
<thead>
<tr>
<th>Year</th>
<th>Person Days</th>
<th>$ Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>50</td>
<td>$5,000</td>
</tr>
<tr>
<td>1998</td>
<td>250</td>
<td>$25,000</td>
</tr>
<tr>
<td>1999</td>
<td>700</td>
<td>$70,000</td>
</tr>
<tr>
<td>2000</td>
<td>400</td>
<td>$40,000</td>
</tr>
<tr>
<td>2001</td>
<td>300</td>
<td>$30,000</td>
</tr>
<tr>
<td>2002</td>
<td>350</td>
<td>$35,000</td>
</tr>
<tr>
<td>Total</td>
<td>2050</td>
<td>$205,000</td>
</tr>
</tbody>
</table>

Cost for equipment, technical services, office space, and travel are not reflected in these totals.

This project has resulted in participation from landowners, resource users and others who perform independent noxious weed control. Many populations of noxious weeds have been controlled through our Adopt-A-Site and Drivers That Care Programs.
Step #11 – Evaluation/Recommendations

**SRRC Spotted Knapweed Evaluation**

An evaluation process has been set up to determine the effectiveness of this Program, the criteria developed in the Forest Service’s Environmental Assessment include:

1. Reducing knapweed populations at monitoring sites by at least an average of 60%
2. No more than an average of one seeded plant per site is allowed
3. Known sites will not increase in area.

Since 1998 the SRRC has prevented more than 99.9% of the knapweed plants from seeding. According to the SRRC Inventory there has been 60% reduction of all knapweed plants at all sites annually since 1999. **Cooperators agreed that the number of knapweed plants have been significantly reduced throughout the subbasin and that CNWP is clearly progressing towards eradication.** This was observed during the September 2000, 2001, and 2002 knapweed project review field trips involving various cooperators. Verification has occurred through the third party monitoring. Results from the 2001 and 2002 are available from SRRC and USFS.

**Observations and Recommendations - Example**

1. Many of the remaining plants are being found in hard to access and hidden places. Ground workers need to look in these areas (such as: blackberries, bushes, under rocks, and around site perimeters) year round.

2. Flowering Knapweed should be clipped into a sealable bag. It should be double bagged and destroyed.

3. Because the Salmon River subbasin is managed by two different National Forests, it is recommended that all parties involved in watershed management and use participate in a unified Noxious Weed Management Plan for the entire Salmon River.

4. **Review the effectiveness criteria to identify areas to revise to better reflect application. Use as template for monitoring other efforts in the region and nation.**
Step #13 – Reporting

The SRRC generates regular progress reports to inform various parties of recent activities, accomplishments, and problems. We also develop a comprehensive Final Report at the end of each year. These Reports are used in writing newsletters, brochures, publishing articles and for securing funding.

Reports are provided to:
- Funders
- Salmon River Weed Management Sub Area Cooperators
- Siskiyou County WMA
- Klamath Basin Fisheries Task Force
- Conferences – CalEPPC, Klamath Fish & Water Symposium Western Weed Society Conference
- Local Community & Schools
- Web Site
- Others

The SRRC has made several CNWP reports to the Klamath Basin Fisheries Task Force, including to Congressional Reps.
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e-mail: info@srrc.org

Check out our web site at www.srrc.org