

7. Stewardship Education and Outreach Strategy

Introduction and Background

Stewardship education and outreach are essential elements of the Stillaguamish Watershed Chinook Salmon Recovery Plan because many of the proposed actions require the support of the general public and the involvement of landowners who are willing to protect and restore salmon habitat on their private property. Regulatory actions alone cannot adequately protect and restore salmon or the freshwater and marine habitat conditions that are required for salmon recovery. Therefore, it is necessary to actively work with the general public and private property owners to identify and implement locally acceptable actions that will produce measurable results for Chinook salmon recovery in the Stillaguamish Watershed.

In response to the need for a well-defined, results-oriented effort to promote public awareness and support for salmon recovery, this stewardship education and outreach strategy achieves the following:

- Explains the stewardship approach recommended by the SIRC for organizing public education and outreach efforts for salmon recovery;
- Defines the SIRC's public education and outreach goals;
- Identifies important target audiences;
- Prioritizes specific topics for public education and outreach;
- Describes existing and recommended stewardship activities; and
- Recommends base funding for core stewardship activities.

Stewardship Approach for Public Education and Outreach

To effectively raise public awareness and engage citizens in Chinook salmon recovery, education and outreach activities must be guided by clear goals and a conceptual model that defines the mechanisms by which such activities will generate useful results. Opinion research among Snohomish County residents shows that the concepts of “stewardship” and “personal responsibility”



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resonate with local residents and they are strong motivators for action (Ward and Ransley 2004). The SIRC therefore supports a “stewardship approach” for organizing public education and outreach activities.

The SIRC recognizes the importance of understanding the types of results that can be expected from different types of stewardship education and outreach activities. Wide-reaching activities, such as newsletters and brochures, are useful for reaching large audiences and have a relatively low per capita cost, but generally do not produce significant measurable results in terms of behavioral change or action. At the other end of the spectrum, direct technical assistance to individual landowners is generally more effective at promoting specific actions, such as the adoption of best management practices (BMPs) and landowner participation in salmon habitat protection and restoration projects. Direct personal contact has a higher per capita cost, but the measurable results in terms of salmon habitat protection and restoration are much greater. The greatest impact, in terms of both public engagement and action, occur with a combination of information, educational activities, and technical assistance. This conceptual model simply explains what many stewardship practitioners already know to be true and provides clear justification for investments in those stewardship activities that produce results.

Public Education and Outreach Goals

Following this stewardship approach, Chinook salmon recovery education and outreach activities in the Stillaguamish Watershed should be conducted to achieve the following goals:

1. Increase public awareness, engagement, and support for Chinook salmon recovery.
2. Promote the adoption of BMPs by the general public and targeted audiences.
3. Encourage civic involvement and policy awareness.
4. Mobilize citizens to participate in restoration and protection of Chinook salmon habitat.
5. Recognize model demonstration projects and reward good stewardship practices.
6. Develop a long-term strategy to provide training and technical assistance to targeted audiences for BMP implementation.
7. Emphasize activities that promote measurable actions by landowners and residents.

Stewardship Audiences

The SIRC recognizes that the activities of the following stakeholder groups in the Stillaguamish Watershed can directly impact salmon habitat in either positive or negative ways. Therefore they are important target audiences for stewardship education and outreach:

- Industrial and non-industrial forestland owners;
- Livestock and crop farmers, including owners of plant nurseries and tree farms;
- Business and residential landowners with freshwater and marine shorelines and wetlands;
- Other rural residential landowners;
- Developers and real estate professionals;
- Construction companies;
- Excavation and land clearing companies;
- Gravel mining companies;
- Earth moving and land clearing equipment rental companies;
- On-site septic system builders;
- Public and private utilities;
- Small non-commercial farmers; and
- Recreational water users.

Stewardship education and outreach activities should be tailored to directly engage these stakeholder groups in salmon recovery. To do this successfully, stewardship education and outreach practitioners will need to identify barriers that might inhibit and motivating factors that might encourage these groups to adopt BMPs. This will require time and effort to develop an understanding of barriers and motivating factors. Local stewardship practitioners should work cooperatively to conduct this important research and development effort.

A large percentage of forestland in the Stillaguamish Watershed is owned and managed by the USDA Forest Service and the Washington State Department of Natural Resources. These public agencies are currently engaged in salmon recovery efforts and are therefore not addressed in this stewardship education and outreach strategy. Information on efforts to ensure sustained and future involvement of these agencies is included in the previous chapter.

Personal priorities and motivating factors differ between those who depend on the land for their livelihood, such as farmers, forest landowners, and business owners, and those who use the land to foster a particular lifestyle. The former are often concerned with or need technical assistance with shoreline regulations, land use regulations, and financial incentive programs. Livestock

and crop farmers in particular are also motivated by water availability for livestock and crops, meeting land needs of livestock and crops, and excess shade created by riparian buffers. Outreach specialists and technical service providers should be prepared to address these issues when approaching landowners about Chinook salmon recovery efforts. Priorities and concerns of residential landowners with shorelines or wetlands and non-commercial small farmers include shoreline regulations, land use options, and freedom to landscape their land as suits their lifestyle. Recreational water users are most concerned about water access, water quality, and safety.

Stewardship education and outreach practitioners should consider the different priorities and motivating factors of each stakeholder group and tailor education, outreach, and technical assistance accordingly. In the Stillaguamish Watershed, the highest level of success has generally been achieved through person-to-person contacts and compromise. Developing trust and social acquaintance with stakeholder groups and individuals is usually necessary before they will engage in salmon habitat protection and restoration activities. Through direct personal contact with stakeholder groups, educators have an opportunity to learn from citizens and landowners valuable information about the current and recent historic conditions of the community and the land. This local knowledge should be respected and utilized in the organization of local stewardship activities.

The general population should not be overlooked in its relationship to Chinook salmon recovery. Each individual in the watershed has some influence on the quality and quantity of water, which is intimately linked with salmon success. Ward and Ransley (2004) found that more than 50% of Snohomish County residents may be willing to engage in reducing their personal impact on streams and rivers. Stewardship practitioners should take advantage of these positive attitudes by providing people with information that they can use in their daily lives to affect change. This includes providing information about opportunities for members of the general population to become actively involved in policy-making processes.

Stewardship Education and Outreach Topics

The following topics should be addressed through stewardship education and outreach for Chinook salmon recovery. Promoting public awareness and knowledge of these topics is the first step toward encouraging human behaviors that are beneficial to salmon.

Function of shoreline, wetland, and nearshore habitats

Shoreline, wetland, and nearshore habitats support complex ecosystems of which salmonids are a key part . These habitats are formed and maintained by complex physical and chemical inputs and processes. Educators should be able to provide clear explanations of how each of these habitats functions at a landscape level, and consequently explain how protection and restoration of these habitats are essential to successful Chinook salmon recovery. The function and importance of riparian vegetation should be emphasized.

Salmon ecology and habitat requirements

In order to appreciate the need for habitat protection and restoration, people must understand the complex life cycle and habitat requirements of Chinook salmon as well as historic habitat conditions. Therefore, educators should use a complete life-cycle approach when providing information about Chinook salmon, from birth and spawning in fresh water to adulthood in the open oceans to transitional periods in estuarine environments.

Noxious weeds and invasive species

The power of invasive species to disrupt properly functioning ecosystems is immense. Educators should be able to identify and provide information about invasive species of concern in the Stillaguamish Watershed (e.g. Japanese knotweed and hybrids, reed canary grass, etc.) and how to deal with them appropriately.

Water quality issues

Because clean water is essential Chinook salmon recovery as well as human health, water quality should be addressed in public education and outreach programs. Appropriate issues include, but are not limited to: stream water quality, aquifer recharge and stream flow, marine water quality, chemical pollutants, and septic systems. The cumulative water quality impacts of factors such as pet waste, vehicle pollution, failing septic systems, litter, and household waste must not be overlooked.

Best management practices

Technical service providers and outreach specialists should be prepared to offer information on land use practices that are the most beneficial and the least detrimental to both the environment and the landowner. The majority of residents want to do the right thing and stewardship practitioners need to be equipped to help them do so.

Policy affecting landowners

In order for landowners to make informed decisions about how they use their property, they must be aware of their impact on the watershed and they must understand government laws and policies affecting their land. Technical assistance providers should therefore be able to offer educational information and relevant contacts for policies such as shoreline regulations, critical area regulations, the Endangered Species Act, and permitting processes.

Stewardship Activities

Existing Stewardship Activities

Several governmental and non-governmental organizations in the Stillaguamish Watershed have existing stewardship education and outreach efforts (Table 14). Each of these organizations has programs that focus on salmon recovery as one of their primary objectives.

Table 14. Existing Stewardship Education and Outreach Efforts

Activity	Agency	Target Audiences
Carcass distributions	SSFETF	fishing groups, students, home school groups
Festival participation (information booths)	CA, SCSWM, SCD, SSFETF, ST	volunteers, property owners, general public, legislators, partners, potential partners
Field trips	SCSWM, SSFETF, ST	general public, volunteers, partners, potential partners, legislators
Invasive plant control	SCD, SCSWM, SSFETF, ST	volunteers, property owners, general public information, legislators, partners, potential partners
Mailings	CA, SCD, SCSWM, SSFETF, ST	members, volunteers, property owners, general public, local businesses
Native plant salvages	SCD, SCSWM, SSFETF, ST	property owners, volunteers
Native seed collections	ST	volunteers
Native vegetation plantings	SCSWM, SCD, SCSWM, SSFETF, ST	volunteers, property owners, general public, local businesses
Newsletters	CA, PSAT, SCD, SCSWM, ST, SSFETF	volunteers, property owners, general public, local businesses
Phone consultations	CA, SCD, SCSWM, SSFETF, ST	property owners, volunteers, general public
Salmon surveys	SSFETF, ST	volunteers, fishing groups
School presentations	SCSWM, SSFETF, ST	students, teachers, (friends and families of students)
Site visits	CA, SCD, SCSWM,	property owners, legislators

Activity	Agency	Target Audiences
	SSFETF,ST	
Trash removal	SSFETF, ST	property owners, volunteers, general public, local businesses
Volunteer opportunities	SCD, SCSWM, SSFETF, WSUE	volunteers, other agencies, general public, local businesses
Website	PSAT, SCD, SCSWM, ST, SSFETF	volunteers, partners and potential partners, general public, local businesses, property owners,
Workshops	CA, PSAT, SCSWM, SSFETF, WSUE	volunteers, agency staff, legislators

CA=City of Arlington
 PSAT=Puget Sound Action Team
 SCD=Snohomish Conservation District
 SCSWM=Snohomish County Surface Water Management
 SSFETF=Stillaguamish Snohomish Fisheries Enhancement Task Force
 ST=Stillaguamish Tribe
 WSUE=WA State University Extension

Outreach specialists can provide information on the topics described above to targeted audiences and the general public through broadcast activities such as outreach booths, newsletters and other written materials, the media, the Internet, classes and workshops. More specialized future events and technical services can be offered through these broadcast activities. These activities are useful for raising public awareness.

Examples of activities targeted toward interested audiences include but are not limited to restoration events such as native vegetation plantings, native plant salvages, salmon carcass distributions, youth education, watershed tours, policy and habitat workshops. These endeavors attract the landowners most likely to engage in active salmon recovery efforts, whether in the form of habitat improvement projects on their land or civic engagement.

Finally, outreach efforts and technical assistance should be offered to all landowners. Watershed stewards can fulfill this role by getting to know local landowners and their issues of concern. The SIRC recognizes that there is much to be gained from the knowledge that many landowners have to offer based on their experiences living in the watershed. While this process takes time and patience it is a worthwhile investment because the restoration of properly functioning habitats and sustainable salmon populations is a long-term project. In many cases, mutually beneficial actions can be identified and implemented that meet the needs of both landowners and Chinook salmon.

Providing technical assistance will be necessary to ensure the success of on-the-ground watershed projects and restoration activities. Technical resources will assist project sponsors in working with diverse landowners and watershed

residents to access funding and customize restoration and stewardship efforts to Chinook salmon habitat needs and unique site-specific circumstances.

Recommended Stewardship Activities

The following stewardship education and outreach activities will support public involvement in salmon recovery actions and build public awareness and support for the recovery of local salmon populations:

1. The SIRC should continue to serve as the local clearinghouse and coordinator of available technical resources to reduce duplication of effort and competition for limited stewardship funds.
2. Continue to provide governmental and non-governmental assistance to landowners, stakeholder, and other residents to:
 - a. Build awareness of Chinook salmon recovery and watershed protection efforts;
 - b. Help create a stewardship ethic among watershed residents;
 - c. Assist landowners with on-the-ground projects to benefit Chinook salmon habitat and natural watershed processes; and
 - d. Focus stewardship activities on Chinook salmon recovery plan priorities.
3. Integrate Chinook salmon recovery outreach objectives with other water resource management efforts, such as instream flow protection, water quality clean up, flood hazard management, and marine resource conservation.
4. Provide technical assistance to small forest landowners to support protection of existing forest cover, restoration of degraded forest areas, implementation of timber harvest and forest road management BMPs, and retention of forest land for timber production.
5. Provide technical assistance to agricultural landowners to support protection of intact riparian areas and forest cover, restoration of degraded riparian areas and forest cover, removal or improvement of culverts and other fish passage barriers, establishment of off-channel habitat, and promotion of alternatives to bank hardening.
6. Provide technical assistance to upland as well as freshwater and marine shoreline landowners to promote forest protection and restoration incentive programs, low impact development techniques, bioengineering alternatives, native plant use, and watershed stewardship.
7. Provide technical assistance to landowners to prevent and/or clean up point and non-point source water pollution.
8. Develop a strategy to educate elected officials and policy makers on the SIRC's adaptive management process and provide adequate lead time to seek the support necessary to implement the identified actions.
9. Coordinate ongoing hands-on watershed restoration efforts such as volunteer planting, animal exclusion through fencing, native plant salvage events, and bioengineering projects.

10. Sponsor presentations, open houses, and workshops to involve watershed residents in the Chinook salmon recovery process. Potential venues include community and neighborhood presentations, youth education, evening seminars, watershed tours and site visits. Present to existing groups at their regularly scheduled meetings whenever possible.
11. Educate residents about the multiple benefits of watershed restoration activities, such as flood hazard management, drinking water protection, and water quality enhancement.
12. Provide advanced educational opportunities to build knowledge base and skills of interested community members to act as stewards on behalf of salmon recovery through their own efforts or in conjunction with existing educational or programmatic activities.
13. Develop and distribute educational materials related to salmon conservation, including written materials, media, websites, and workshops.
14. Maintain a watershed library and website containing general watershed information, salmon recovery plan summaries and updates, SIRC meeting agendas and meeting summaries, and watershed event information, as well as a mechanism for the public to comment and submit salmon and watershed-related inquiries.
15. Install interpretive signs throughout the watershed identifying rivers and creeks, as well as highlighting restoration projects or acquisition sites. These signs would emphasize the importance of Chinook salmon habitat in the watershed, collaborative salmon recovery and watershed protection efforts, and site-specific restoration activities.

Funding for Stewardship

Existing programs that have base funding are generally more successful in implementing long-term strategies. While it is possible to obtain grants and other special funds to support education and outreach activities, long-term base funding is needed to sustain the results-oriented stewardship approach called for in this strategy. Like maintenance programs of all sorts, stewardship education and outreach programs need to be on-going. Effective stewardship education and outreach programs have three basic levels of activity: broad dissemination of general information, transferal of specific knowledge to targeted audiences, and direct technical assistance to individuals with action projects. For a program to be effective, all three levels need to be continuously available to citizens. This means core program elements should receive base funding and should not be dependent on grant funding. Once base program elements are funded, grants should be used for special, short-term initiatives.

