

Shoreline Restoration Steps

1. Inventory area of restoration

- ⊗ Trees and shrubs (Id which are native/exotic)
- ⊗ Areas (pockets) of native forbs and grasses
- ⊗ Structures
 - ⊗ Buildings
 - ⊗ Docks and boat storage
 - ⊗ Recreational items, i.e. sport and swimming areas, fire pits, swings, gardens
- ⊗ Relevant landscape features.
 - ⊗ Steep hills – general slope of the property
 - ⊗ Areas of erosion
 - ⊗ Ordinary High Water Mark
 - ⊗ Areas of runoff, i.e. roofs, driveways, roads
- ⊗ Condition of the shoreline (Is erosion actively occurring?)
- ⊗ Aquatic plant zone condition
- ⊗ Light conditions (Areas of light and shade)
- ⊗ Soil type
- ⊗ Moisture levels

Hint – Have the landowner give you a personal tour of the property.

Hint – TAKE LOTS OF PICTURES!!!

2. Ask the homeowner lots of questions and compliment them on what they are doing right.

- ⊗ **What end product does each family member envision for the shoreline** (Everyone will have a different idea)
- ⊗ Why are they considering restoration (habitat, aesthetics, erosion control, nutrient buffer, privacy)
- ⊗ What are the sources of runoff
- ⊗ Where are the areas of heaviest use (i.e. pathways, play areas)
- ⊗ The number of children and pets can be an important factor
- ⊗ What views do you wish to preserve (viewing corridor)
- ⊗ How often are you here
- ⊗ Would they be open to changing use patterns/ removing non-conforming structures
- ⊗ What kind of investment are they willing to make
 - ⊗ Time
 - ⊗ Money
 - ⊗ Space
- ⊗ _____
- ⊗ _____
- ⊗ _____

Hint – Provide the homeowner with a strategy and information to share with neighbors to explain their project.

Hint – Make 2-3 site visits before making any recommendations

3. Find a Reference site with similar characteristics (Note: a reference site doesn't need to be located on the lake the restoration site is on.)

- ⊙ Inventory common/abundant vegetation as well as their densities
- ⊙ Create a list of
 - ☛ Forbs
 - ☛ Grasses/sedges
 - ☛ Shrubs
 - ☛ Trees
- ⊙ Include important plant characteristics
 - ☛ Life expectancies
 - ☛ Rate of establishment
 - ☛ Growth time
 - ☛ Ability to propagate
 - ☛ Competition
 - ☛ Resistance to herbivores
- ⊙ Make sure the homeowner has an active part in plant choices. By the landowners attitude judge the number of species they should choose.

Hint – To save yourself some work check with your local LCD, DNR and Extension offices to see if a reference site vegetation list already exist.

Hint – Keep records of your reference sites. In the future these list can be compiled into a valuable library for others. Offer them to your local agencies.

Hint – Keep your list length reasonable (5-15 species). You don't want to overwhelm the landowner with choices

Recommendation – People love open flowerbeds. Look for opportunities to maximize canopy layers – shrubs and trees as well as grasses/sedges

4. Create a site plan

- ⊙ Environmental priorities are to:
 - ☛ Reduce and detain runoff
 - ☛ Stabilize the routes that runoff takes
 - ☛ Restore poorly vegetated areas
 - ☛ Stabilize eroded shorelines
 - ☛ “protect” high use walkways
- ⊙ Combine all of you information and develop a long-term plan that can achieve the homeowner's and environmental priorities.
- ⊙ Prioritize items of the long-term plan into yearly plans. The number of years will depend on the owners commitment (take care of any erosion problems the first year)

- ⊗ Identify conditional human use changes (boating patterns, keeping pets off areas)
- ⊗ If erosion control is needed decided on method and get appropriate permits.
 - ⊗ DNR Water Management Office (below ordinary high water mark)
 - ⊗ Local zoning office (above the ordinary high water mark)
- ⊗ Decide upon restoration types and the areas they will be used.
 - ⊗ Protection (low labor intensity and cost)
 - ⊗ Natural recovery “leave and let grow” (low labor intensity and cost)
 - ⊗ Accelerated Recovery “planting” (high labor and cost)
- ⊗ Will plants and seed be used? Where will plants/seeds come from (Remember your budget).
 - ⊗ Local nurseries
 - ⊗ Grow your own
 - ⊗ Transplant from local area (Remember plant ethics)
- ⊗ Existing vegetation
 - ⊗ Transplant directly in lawn (works best if lawn is poor or consists of native sedges/grasses)
 - ⊗ Kill existing vegetation in patches
 - ⊗ Kill entire restoration area
- ⊗ If areas of soil are to be disturbed make sure there is adequate erosion control.
 - ⊗ Straw
 - ⊗ Hay (excessive seeds)
 - ⊗ Erosion mat/wood fibers
 - ⊗ Wood chips (steals N from plants)
 - ⊗ Fall leaves (maple leaves tend to mat, oak works well)
 - ⊗ Pine needles

Hint – Take your time when making a site plan

Hint – Stay in contact with landowners as plans are finalized and implemented,

Don't – Have preconceived restoration plans for the site

5. Planting

- ⊗ Spacing –Forbs and grasses (look at plant characteristics)
- ⊗ Trees and shrubs
 - ⊗ Space for maturity
 - ⊗ Maximum short-term coverage
 - ⊗ Space in clumps

6. Come up with a monitoring plan and commitment.

- ⊗ Who will maintain
 - ⊗ Professionals
 - ⊗ Landowners
 - ⊗ Volunteers

- Ⓢ Level of management
 - ⌘ Let nature control
 - ⌘ Weed only noxious plants and undesirables
 - ⌘ Mow to control weeds at end of season
 - ⌘ Burn area to control weeds

Hint – Provide written care and maintenance guidelines, develop management agreements

Hint – Effective shoreland restoration = costs of installation; good site management is crucial.

Don't – Assume landowners understand your ideas

Don't – Criticize past practices

Hint – TAKE LOTS OF PICTURES including a year, two years.... It is easier to sell an idea with before and after pictures

Recommendation – Landowners care about and are proud of their properties – Your role is to EDUCATE – about shoreland values and alternative visions for shoreland management

Recommendation – Long term success comes when the landowner and site designers team up to develop a common vision – the landowner must be committed to maintain what is started