TAHOE YELLOW CRESS *(Rorippa subumbellata)* FIELD SURVEY FORM

Survey date[1]: _____
Surveyor[2]: _____ Affiliation[2]: _____
Email[2]: _____ Telephone[2]: _____

LOCATION[3] (attach copy of quad map showing boundaries and pictures taken)

Site name: _____

USGS quad: S. Lake Tahoe Emerald Bay Meeks Bay Homewood Tahoe City Kings Beach Marlette Lake Glenbrook

County: El Dorado Placer Washoe Carson Douglas **Site ownership:** Private State Federal City/Local

Legal access: _____

TYC Present[4]? Yes No Actual Number of Plants[5]: _____ or Estimated Plants: _____

Amount of person minutes spent in search[6]?

Previous plant occurrence[7]? Yes No Date Plant last observed[8]: _____

Cluster[9] 1(individual clusters are equal to TYC that is within 13 m radius): (record additional clusters on back or on additional data sheets)

GPS Coordinates taken[10]: (UTM NAD 27, Zone 11) – be specific about where the coordinates are from (centroid, endpoints, etc.)

Easting: _____ Northing: _____ Location: _____
Easting: _____ Northing: _____ Location: _____
Easting: _____ Northing: _____ Location: _____
Easting: _____ Northing: _____ Location: _____

[11]Number of plants within cluster_____ Actual Number or Estimated Percentage in each phenological stage (circle one)

Juvenile: _____ Senescent: _____ Flowering: _____ Fruiting (may also be flowering): _____

Min. Rosette Diameter (cm): _____ Max. Rosette Diameter (cm): _____

PHYSICAL ATTRIBUTES

Elevation[12]: _____
Lake level on day of survey (USGS Station 10337000)[12]: _____
Distance to lake water line (meters)[13]: Shortest _____ Longest _____
Other waterbodies closer than lake[13]?_____ How far_____
Sketch beach profile (use back paper additional space)[14]:

substrate / soils (relative cover w/in 0.3 meter)[15]:

_____ % sand (<2 mm)
_____ % fine gravel (>2-5 mm)
_____ % medium gravel (>5-20 mm)
_____ % coarse gravel (>20-75 mm)
_____ % cobbles (>75-250 mm)
_____ % stones (>250-600 mm)
_____ % boulders (>600 mm)
_____ % other (silt, wrack, litter)

BIOLOGICAL ATTRIBUTES

Total Vegetation % cover[16]: _____

Associated vegetation[17]:

% Cover	*Name*	*% Cover*	*Name*	Common associates: *% Cover*	*% Cover*
___	TYC (*R. subumbellata*)	___	_____	__ Spike-rush (*Eleocharis* spp.)	___ Willow (*Salix* spp.)
___	_____	___	_____	__ Sweet clover (*Melilotus alba*)*	___ Alder (*Alnus incana*)
___	_____	___	_____	__ Clover (*Lotus purshianus*)	___ *Epilobium* spp.
___	_____	___	_____	__ Mullein (*Verbascum thapsus*)*	___ Sedge (*Carex* spp.)
___	_____	___	_____	__ Monkey flower (*Mimulus primuloides*)	___ Rush (*Juncus* spp.)
___	_____	___	_____	__ W. yellow cress (*Rorippa curvisiliqua*)	___ Dock (*Rumex* spp.)

Non-native species in vicinity of TYC population[18]? Yes No (If YES, add to above species list and % cover and identify w/ an *)

LAND USES and IMPACTS[19]

Cover of footprints within patch[20]: <5% 5-25% 26-50% 51-75% >75%

Note vegetation removal, trash, recreational impacts, vandalism and/or other impacts[20]: _____

_____

Enclosure effectiveness[21]: good fair poor Comment: _____

Possible management actions and other notes[22]: _____

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Cluster[9] 2(individual clusters are equal to TYC that is within 13 m radius): (record additional clusters on back or on additional data sheets)

GPS Coordinates taken[10]: (UTM NAD 27, Zone 11) – be specific about where the coordinates are from (centroid, endpoints, etc.)
Easting: _____ Northing: _____ Location: _____
Easting: _____ Northing: _____ Location: _____
Easting: _____ Northing: _____ Location: _____
Easting: _____ Northing: _____ Location: _____

[11]Number of plants within cluster_____ Actual Number or Estimated Percentage in each phenological stage (circle one)
Juvenile: _____ Senescent: _____ Flowering: _____ Fruiting (may also be flowering): _____
Min. Rosette Diameter (cm): _____ Max. Rosette Diameter (cm): _____

PHYSICAL ATTRIBUTES

Distance to lake water line (meters)[13]: Shortest _____ Longest _____ Other waterbodies closer than lake[13]?_____ How far_____
substrate / soils (relative cover w/in 0.3 meter)[15]:
_____ % sand (<2 mm) _____ % coarse gravel (>20-75 mm) _____ % boulders (>600 mm)
_____ % fine gravel (>2-5 mm) _____ % cobbles (>75-250 mm) _____ % other (silt, wrack, litter)
_____ % medium gravel (>5-20 mm) _____ % stones (>250-600 mm)

BIOLOGICAL ATTRIBUTES

Total Vegetation % cover[16]: _____

Associated vegetation[17]: Common associates:

% Cover	*Name*	*% Cover*	*Name*	*% Cover*	*% Cover*
___	TYC (*R. subumbellata)*	___	_____	__ Spike-rush (*Eleocharis* spp.)	___ Willow (*Salix* spp.)
___	_____	___	_____	__ Sweet clover (*Melilotus alba*)*	___ Alder (*Alnus incana*)
___	_____	___	_____	__ Clover (*Lotus purshianus*)	___ *Epilobium* spp.
___	_____	___	_____	__ Mullein (*Verbascum thapsus*)*	___ Sedge (*Carex* spp.)
___	_____	___	_____	__ Monkey flower (*Mimulus primuloides*)	___ Rush (*Juncus* spp.)
___	_____	___	_____	__ W. yellow cress (*Rorippa curvisiliqua*)	___ Dock (*Rumex* spp.)

Non-native species in vicinity of TYC population[18]? Yes No (If YES, add to above species list and % cover and identify w/ an *)

Cluster[9] 3(individual clusters are equal to TYC that is within 13 m radius): (record additional clusters on back or on additional data sheets)

GPS Coordinates taken[10]: (UTM NAD 27, Zone 11) – be specific about where the coordinates are from (centroid, endpoints, etc.)
Easting: _____ Northing: _____ Location: _____
Easting: _____ Northing: _____ Location: _____
Easting: _____ Northing: _____ Location: _____
Easting: _____ Northing: _____ Location: _____

[11]Number of plants within cluster_____ Actual Number or Estimated Percentage in each phenological stage (circle one)
Juvenile: _____ Senescent: _____ Flowering: _____ Fruiting (may also be flowering): _____
Min. Rosette Diameter (cm): _____ Max. Rosette Diameter (cm): _____

PHYSICAL ATTRIBUTES

Distance to lake water line (meters)[13]: Shortest _____ Longest _____ Other waterbodies closer than lake[13]?_____ How far_____
substrate / soils (relative cover w/in 0.3 meter)[15]:
_____ % sand (<2 mm) _____ % coarse gravel (>20-75 mm) _____ % boulders (>600 mm)
_____ % fine gravel (>2-5 mm) _____ % cobbles (>75-250 mm) _____ % other (silt, wrack, litter)
_____ % medium gravel (>5-20 mm) _____ % stones (>250-600 mm)

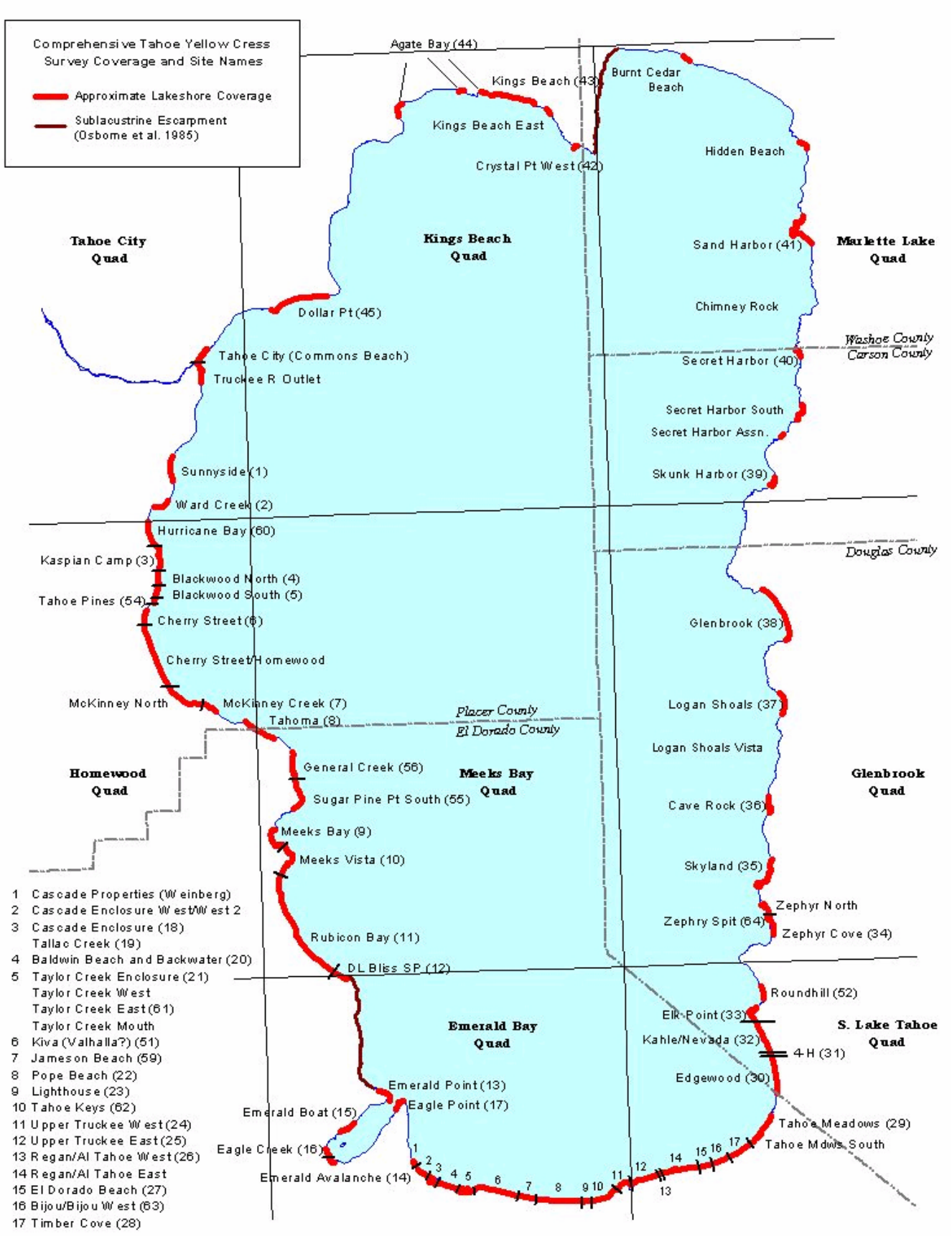
BIOLOGICAL ATTRIBUTES

Total Vegetation % cover[16]: _____

Associated vegetation[17]: Common associates:

% Cover	*Name*	*% Cover*	*Name*	*% Cover*	*% Cover*
___	TYC (*R. subumbellata)*	___	_____	__ Spike-rush (*Eleocharis* spp.)	___ Willow (*Salix* spp.)
___	_____	___	_____	__ Sweet clover (*Melilotus alba*)*	___ Alder (*Alnus incana*)
___	_____	___	_____	__ Clover (*Lotus purshianus*)	___ *Epilobium* spp.
___	_____	___	_____	__ Mullein (*Verbascum thapsus*)*	___ Sedge (*Carex* spp.)
___	_____	___	_____	__ Monkey flower (*Mimulus primuloides*)	___ Rush (*Juncus* spp.)
___	_____	___	_____	__ W. yellow cress (*Rorippa curvisiliqua*)	___ Dock (*Rumex* spp.)

Non-native species in vicinity of TYC population[18]? Yes No (If YES, add to above species list and % cover and identify w/ an *)


Comprehensive Tahoe Yellow Cress Survey Coverage and Site Names
Approximate Lakeshore Coverage
Sublacustrine Escarpment (Osborne et al. 1985)
Agate Bay (44)
Kings Beach (43)
Burnt Cedar Beach
Kings Beach East
Crystal Pt West (42)
Hidden Beach
Tahoe City Quad
Kings Beach Quad
Sand Harbor (41)
Marlette Lake Quad
Chimney Rock
Dollar Pt (45)
Washoe County
Carson County
Tahoe City (Commons Beach)
Truckee R Outlet
Secret Harbor (40)
Secret Harbor South
Secret Harbor Assn.
Sunnyside (1)
Skunk Harbor (39)
Ward Creek (2)
Hurricane Bay (60)
Douglas County
Kaspian Camp (3)
Blackwood North (4)
Tahoe Pines (54)
Blackwood South (5)
Cherry Street (6)
Glenbrook (38)
Cherry Street/Homewood
McKinney North
McKinney Creek (7)
Tahoma (8)
Placer County
El Dorado County
Logan Shoals (37)
Logan Shoals Vista
Homewood Quad
General Creek (56)
Meeks Bay Quad
Glenbrook Quad
Sugar Pine Pt South (55)
Cave Rock (36)
Meeks Bay (9)
Meeks Vista (10)
Skyland (35)
Zephyr North
Zephry Spit (64)
Zephyr Cove (34)
Rubicon Bay (11)
DL Bliss SP (12)
Roundhill (52)
Elk Point (33)
S. Lake Tahoe Quad
Emerald Bay Quad
Kahle/Nevada (32)
4-H (31)
Edgewood (30)
Emerald Point (13)
Eagle Point (17)
Emerald Boat (15)
Tahoe Meadows (29)
Eagle Creek (16)
Tahoe Mdws South
Emerald Avalanche (14)
1 Cascade Properties (Weinberg)
2 Cascade Enclosure West/West 2
3 Cascade Enclosure (18)
Tallac Creek (19)
4 Baldwin Beach and Backwater (20)
5 Taylor Creek Enclosure (21)
Taylor Creek West
Taylor Creek East (61)
Taylor Creek Mouth
6 Kiva (Valhalla?) (51)
7 Jameson Beach (59)
8 Pope Beach (22)
9 Lighthouse (23)
10 Tahoe Keys (62)
11 Upper Truckee West (24)
12 Upper Truckee East (25)
13 Regan/Al Tahoe West (26)
14 Regan/Al Tahoe East
15 El Dorado Beach (27)
16 Bijou/Bijou West (63)
17 Timber Cove (28)

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Site Name and Date of Survey_____

Cluster[9]_____(individual clusters are equal to TYC that is within 13 m radius): (record additional clusters on back or on additional data sheets)

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[11]Number of plants within cluster_____ Actual Number or Estimated Percentage in each phenological stage (circle one)
Juvenile: _____ Senescent: _____ Flowering: _____ Fruiting (may also be flowering): _____
Min. Rosette Diameter (cm): _____ Max. Rosette Diameter (cm): _____

PHYSICAL ATTRIBUTES

Distance to lake water line (meters)[13]: Shortest _____ Longest _____ Other waterbodies closer than lake[13]?_____ How far_____
substrate / soils (relative cover w/in 0.3 meter)[15]:
_____ % sand (<2 mm) _____ % coarse gravel (>20-75 mm) _____ % boulders (>600 mm)
_____ % fine gravel (>2-5 mm) _____ % cobbles (>75-250 mm) _____ % other (silt, wrack, litter)
_____ % medium gravel (>5-20 mm) _____ % stones (>250-600 mm)

BIOLOGICAL ATTRIBUTES

Total Vegetation % cover[16]: _____

Associated vegetation[17]:

% Cover	*Name*	*% Cover*	*Name*	Common associates: *% Cover*	*% Cover*
___	TYC (*R. subumbellata)*	___	_____	__ Spike-rush (*Eleocharis* spp.)	___ Willow (*Salix* spp.)
___	_____	___	_____	__ Sweet clover (*Melilotus alba*)*	___ Alder (*Alnus incana*)
___	_____	___	_____	__ Clover (*Lotus purshianus*)	___ *Epilobium* spp.
___	_____	___	_____	__ Mullein (*Verbascum thapsus*)*	___ Sedge (*Carex* spp.)
___	_____	___	_____	__ Monkey flower (*Mimulus primuloides*)	___ Rush (*Juncus* spp.)
___	_____	___	_____	__ W. yellow cress (*Rorippa curvisiliqua*)	___ Dock (*Rumex* spp.)

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Associated vegetation[17]:
% Cover *Name* *% Cover* *Name*
___ TYC (*R. subumbellata)* ___ _____
___ _____ ___ _____
___ _____ ___ _____
___ _____ ___ _____
___ _____ ___ _____
___ _____ ___ _____

Common associates:
% Cover
__ Spike-rush (*Eleocharis* spp.)
__ Sweet clover (*Melilotus alba*)*
__ Clover (*Lotus purshianus*)
__ Mullein (*Verbascum thapsus*)*
__ Monkey flower (*Mimulus primuloides*)
__ W. yellow cress (*Rorippa curvisiliqua*)

% Cover
___ Willow (*Salix* spp.)
___ Alder (*Alnus incana*)
___ *Epilobium* spp.
___ Sedge (*Carex* spp.)
___ Rush (*Juncus* spp.)
___ Dock (*Rumex* spp.)

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% Cover *Name* *% Cover* *Name*
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___ _____ ___ _____
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Common associates:
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