

Taylor's Checkerspot Butterfly Action Plan - Updated 21 Nov 2014

The purpose of this action plan is to identify the next-best conservation actions that can be conducted over the next 3-5 years to support TCB recovery.

Category	Ref.	Task	Rank	Status & Implementing Party
1. Protect Occupied and Other Key Sites	1.1	1. Pursue conservation easements, acquisitions, and management agreements.	18	
	1.1.a	a. Work w/BPA to develop and implement management agreements at Scatter Creek and Cardwell Hill.		Ongoing (Scatter Creek)
	1.1.b	b. Pursue acquisition or conservation easement with willing sellers. [e.g. South Puget Sound, Bald Hill (WA), Denman Island Private Land and Cardwell Hill properties (OR)].		
	1.1.c	c. Finalize voluntary management plans on private land (e.g. Denman Island, Bald Hill (WA)) under the guidance of WDFW & DNR Forest Practices Board).		Completed in Clallam County
	1.2	2. Minimize direct impacts to occupied sites.	8	
	1.2.a	a. Minimize incompatible recreation especially at Scatter Creek, Dan Kelly Ridge (ATV use), Denman Island Provincial Park.		In progress (WDFW, ONF)
	1.2.b	b. Minimize training impacts & manage wildfire (in concert w/consultation), especially at R74/76, R51.		Ongoing (JBLM)
	1.3	3. Develop management/restoration plans including fire at occupied and unoccupied sites.	11	In progress
	2. Enhance Habitat	2.1	1. Enhance habitat by controlling/removing invasive species and structural modifiers, and enhancing larval food and nectar plants as appropriate.	1
2.1.a		a. Improve production of larval and nectar plant materials throughout the range, esp. in Clallam Co. & BC.		In Progress
2.1.b		b. Determine if host Castilleja species produce fertile hybrids to resolve conflict between planting both species at same sites.	7	
2.1.c		c. Collect information on plantago pathogen in order to identify and calculate the level of risk to Eet. (relate to larger picture of host plant population change)		
2.1.d		d. Develop techniques to restore and enhance deep soil sites as a tool for recovery.		
2.1.e		e. Research and develop best management practices for using fire in relation to butterfly recovery.	12	Initiated at JBLM
2.2		2. Improve connectivity between occupied areas and/or suitable habitat.	4	
2.3		3. Define habitat restoration targets through research.		
2.3.a		a. Evaluate quality of various host species in relation to butterfly performance in all life stages (e.g. phenology, chemical content, abundance, environmental, etc.).	3	In Progress for pre-diapause larvae (UW)
2.3.b		b. Evaluate dispersal in the context of landscape and local factors.		
2.3.c		c. Define butterfly habitat selection through research (e.g. oviposition & adult habitat, nectar and larval food plant density, phenology, soil type/structure, and spatial arrangement).		In progress. Ovipos. Complete in Clallam Co., AIA, OR.
2.3.d		d. Determine the characteristics of occupied habitat, with respect to nectar plants, host plants, and vegetation structure. Build upon previous work.		Ongoing (UW, WDFW); coarse review completed (IAE)
2.3.e		e. Identify pre and post diapause food plants, particularly in the Olympia Peninsula.		Ongoing (ONF)
2.4		4. Utilize existing knowledge to create white paper that documents both known habitat characteristics and known habitat management practices and identifies information gaps.	15	
2.5		5. Create and implement opportunities to evaluate effects of habitat management on Eet populations.	16	Ongoing
2.6	6. Increase understanding of impact of external factors			
2.6.a	a. Evaluate impact of predators.			
2.6.b	b. Evaluate the impact of vehicle off-road traffic on plantago population.		Planned (JBLM)	
3. Captive Rearing and Reintroduction	3.1	1. Continue to implement captive rearing and reintroduction programs, including monitoring source and release sites in South Sound and ensuring release sites are in suitable condition.	10	Ongoing (WDFW, Oregon Zoo, Evergreen)
	3.1.a	a. Evaluate release techniques on larval survivorship.		
		b. Improve our understanding of the influence of weather and climate on population dynamics and reintroductions.		
	3.2	2. Where appropriate, initiate efforts to increase the number of populations through captive rearing and reintroduction (by region).	9	
	3.2.a	a. Identify and prioritize potential future release sites in coordination with recovery planning efforts and entities (esp. in OR).		
3.2.b	b. Develop new facilities or additional capacity for captive rearing, as needed (e.g. Benton County, Denman Island).			
3.3	3. Document decision making and state of knowledge for population increase efforts.			
4. Survey / Monitor	4.1	1. Develop suitable survey and monitoring protocols to determine occupancy, trends, distribution, and abundance.	5	
	4.1.a	a. Develop methodologies for calculating an estimate of population size.		
	4.2	2. Annually monitor all known populations.	6	Ongoing
	4.3	3. Prioritize and survey suitable habitat to identify additional populations and/or expansions.	17	
	4.4	4. Refine criteria and establish standardized habitat assessment regimen to evaluate habitat suitability.	14	Ongoing
4.4.a	a. Assess status of occupied and key sites.			
5. Coordination & Education	5.1	1. Determine and implement best approach for increasing numbers of populations within each region (e.g. habitat enhancement, habitat manipulations, translocation, captive rearing and reintroduction).	2	Planned (FWS)
	5.2	2. Develop Recovery Plan.		Completed in B.C.
	5.3	3. Review data from genetic and meta-population studies to direct population management.	13	
	5.3.a	a. Determine the appropriate taxonomy for populations identified as <i>E. e. taylora</i> using genetic analyses.		
	5.3.b	b. Determine the degree of genetic structuring within and between populations of <i>E. e. taylora</i> .		
	5.4	4. Inform and discuss effects of ESA status and cooperatively develop solutions. (e.g. monitoring & project survey requirements, recovery planning, conservation measures).		
	5.5	5. Share information between entities, establish partnerships, and maintain a working group.	19	Ongoing
5.5.a	a. Utilize synergistic restoration efforts (e.g. funding, communications, messaging, political/public support) with complementary species-at-risk to support a larger distribution of healthy functioning ecosystem (e.g. SWG project, CALE).			
5.6	6. Identify opportunities to conduct public outreach and education, including opportunities to share information about listing and conservation to landowners that do or may have occupied or suitable habitat.	20		

Please Note: Changes made between Nov. 20 and March 30 were organizational and had no major impact on content. Items from the 'Research' section were absorbed into the other categories and the 'Enhance and Increase Sizes and Numbers of Populations' category was split into two categories (now 2. Enhance Habitat and 3. Captive Rearing and Reintroduction). Due to these changes, reference numbers may have changed. Priority rankings may have changed +/- 1 but no change in rank order was made.